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ABSTRACT

Three counties in eastern Utah's Uintah Basin face the likelihood of rapid growth because of planned oil shale and tar sands development in the area. This seven-part report describes a federally-funded, community-based project to plan for expected impacts of the energy developments on Uintah Basin education. After an introductory overview, the second section outlines the oil shale and tar sands projects, connected developments, constraints on the projects, and projected trends in total and school-age population growth. Section 3 discusses related projections of educational needs, involving facilities, financing, staffing, curriculum, student turnover, special services, and relationships between new and old residents. Section 4 describes the community-based education planning project, including its establishment of a representative community planning structure, mobilization of resources, and development of a planning process and planning abilities. Projected impacts of energy development on K-12, preschool, and postsecondary education in Utah's Daggett, Duchesne, and Uintah counties are presented in sections 5 and 6, along with the responses proposed by the community-based planners. Section 7 summarizes and evaluates the planning project. Five appendices provide charts of projected development impacts under various scenarios and copies of planning project documents. (RW)

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Community Education Section
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under contract with
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IMPACTS OF OIL SHALE DEVELOPMENT ON EDUCATION IN THE Uintah Basin

A report on a community based approach to education planning in communities facing rapid growth

EA 014 820

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Grant No. 7255

April, 1982

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April, 1982

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SECTION 1

INTRODUCTION AND OVERVIEW

BACKGROUND

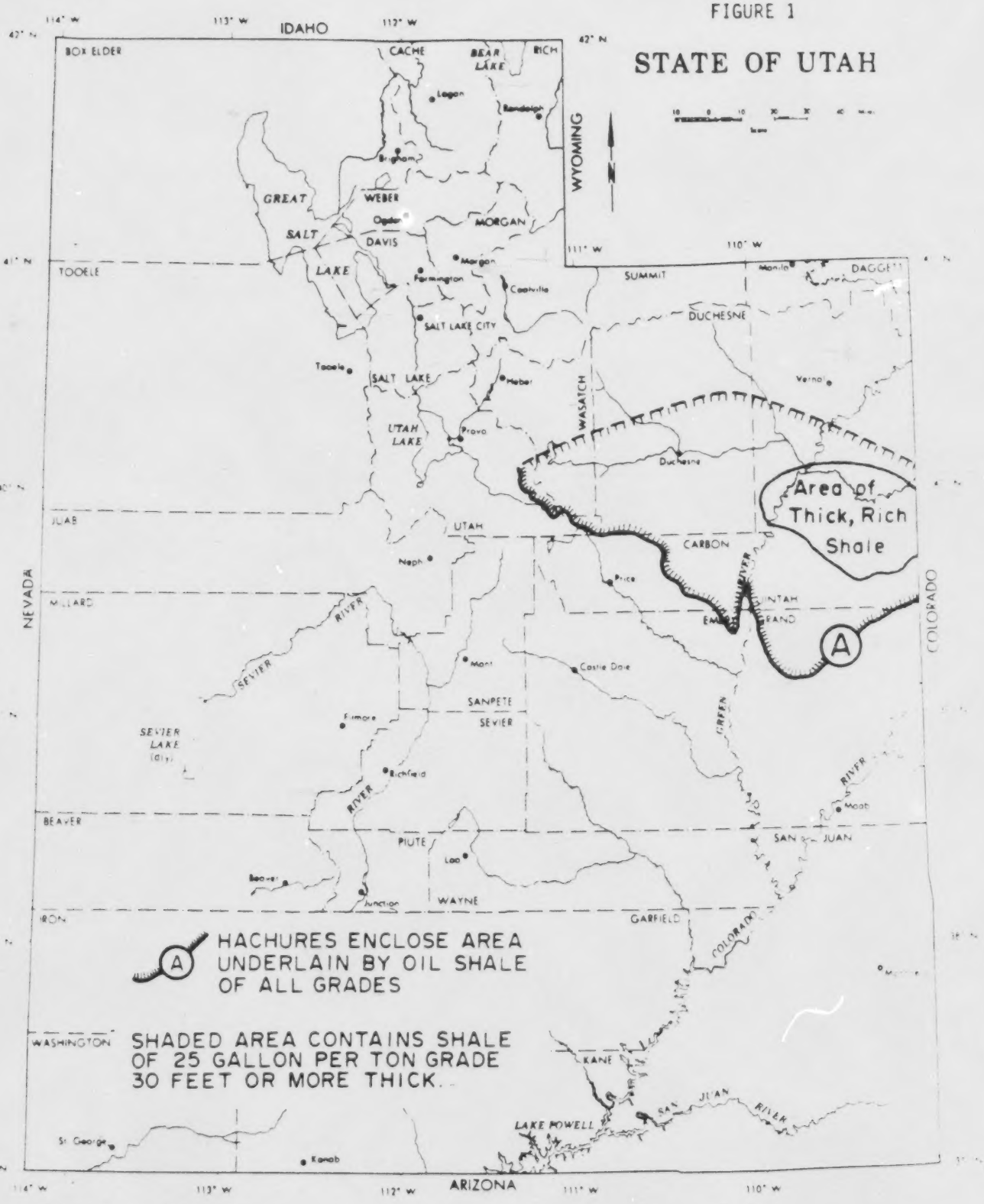
The Uintah Basin is located in energy-rich eastern Utah, where abundant supplies of conventional petroleum, oil shale and tar sands are slated for intensive development in the next few years (see Figures 1 and 2). Historically, the Basin has been a ranching area populated by a hardy, homogeneous population with roots going back a century. Living in the area before that, and present still, is a small but significant Ute Indian population within a geographically large reservation area. The population of the Basin, prior to energy development, had been in a steady, slowly declining pattern for several years.

While residents have been aware of the energy resources of the area for many years, exploitation of the resources did not commence in earnest until the early 1970's, when several oil companies expanded their conventional oil drilling operations in the area. In the past ten years, the rising price of crude oil may have finally made the development of synthetic fuels (i.e., oil shale) a financially rewarding venture. At present, there are more than 15 projects to develop oil shale and tar sands deposits in the area.

PRESENT POPULATION TRENDS

During the early 1970's, the Basin population reversed its historical decline and, after a "mini-population boom", has shown slow but steady growth. The projected energy (and related) developments, however, threaten to turn this steady growth into a full-fledged population boom which would more than double the Basin's population in less than a decade.

FIGURE 1



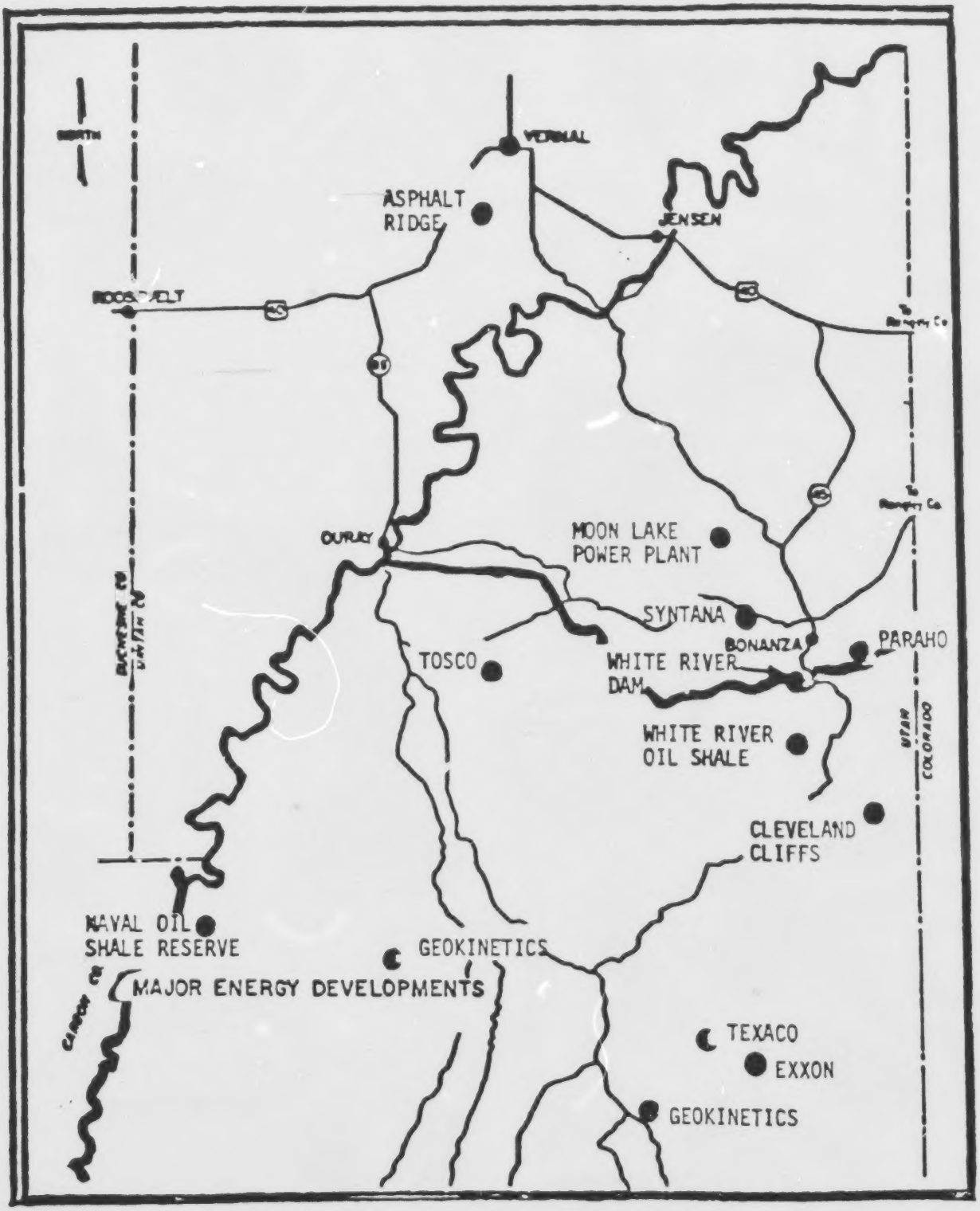
Utah Geological and Mineral Survey

OIL SHALE AREAS
UINTA BASIN, NORTHEAST UTAH

File no 1363-A

Figure 2

Location of Major Energy Developments
in the Bonanza & Ouray areas of the Uintah Basin



THE PROBLEM

As a result of the projected population growth from oil shale development and other energy-related developments, the school district and the educational policy makers (i.e., school board members) are faced with a host of problems which they must address. Not only do they have to provide an adequate number of classrooms and teachers, but they also have to deal with problems in recruiting and retaining quality teachers--who are often offered more financially rewarding positions in private industry. There are also social problems which affect the schools: high transiency and turnover, increases in alcohol and drug abuse rates, increases in the incidence of divorce, depression and child abuse, etc. Finally, but certainly not least, is the problem of conflicting cultural and lifestyle values between a group of longtime settlers with similar cultural and religious values and newcomers who bring with them a variety of beliefs and modes of conduct which often clash with the established norm.

PLANNING FOR IMPACTS

It was in recognition of these impacts upon the educational system that in 1980 the U. S. Department of Energy, through the Utah State Energy Office, funded a planning project to explore the nature and extent of these impacts.

In undertaking this project, the staff of the Utah State Office of Education (USOE) utilized the planning funds available as a result of the federal grant to develop and implement a Community Based Education Planning Process to examine and address potential educational problems associated with rapid growth. This approach differs significantly from the traditional planning approach of assigning a technically expert educational planner to

identify problems and develop an educational master plan for coping with development-induced impacts.

Research data[1] has suggested that many traditional planning studies wind up "catching dust" on some office bookshelf because of three conditions: First, studies of this type are characterized by reliance upon the expertise of professional planners and technical experts, while failing to include the lay citizenry in the planning process. Second, most of the studies which fail to be implemented only list conditions, needs, and recommendations. Not only do the authors of these studies generally fail to "go the next step" in identifying priority goals or recommendations, but they also fail to lead other groups (such as lay advisory groups) to develop priorities for action. Third, the "dust catching" studies seldom involve the development of plans-of-action to implement the top priorities.

Keeping in mind the findings of the Mico study, this planning effort has sought to plan with, rather than for, the residents of the Uintah Basin. As a result, this document represents the combined efforts of USOE staff, personnel in the affected school districts, community groups and related service agencies, and hundreds of Uintah County residents who came together to identify and address some of the major impacts of energy-induced population growth upon the educational system of the area.

The outcomes of this community based approach to education planning included the development of a significant body of planning data upon which recommendations for action were developed and priority areas for implementation were identified. However, the most significant benefit of

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[1]Mico, Paul R. "Community Self-Study: Is There a Method to the Madness?" Adult Leadership XIII (March 1965) 288-295.

this approach was not the provision of data. Rather it was the ownership, understanding, and commitment which was developed among the citizenry and patrons of the Uintah County schools as a result of their participation in the planning process. This kind of outcome is one which cannot be reached through conventional planning strategies.

ORGANIZATION OF DOCUMENT

In conformance with contractual reporting requirements, this report is organized as follows: First, an introduction and overview of the document. Second, a description and analysis of background and projections. Third, a discussion of direct and indirect problems, needs, and opportunities anticipated as a result of rapid growth from energy development. Fourth, a discussion of the community based planning process which was followed in the study. Fifth, a discussion of K-12 impacts and proposed actions by districts (Daggett, Duchesne, Uintah). Sixth, a discussion of other educational impacts in the Uintah Basin (pre-school, vocational education, higher education). Seventh, a summary of future directions, and evaluation of the project.

SECTION 2

DESCRIPTION AND ANALYSIS OF BACKGROUND AND PROJECTIONS

A number of factors have direct bearing on projections of population increases resulting from energy development. In order to make growth projection figures more meaningful, seven factors are identified and discussed in this section. These factors need to be kept in mind when analyzing the comprehensiveness of a given set of population projections. These seven factors begin to document the need for a plan to address the impact of the projected growth upon education services in the Uintah Basin Area.

FACTOR 1: THE NUMBER AND SIZE OF PROPOSED OIL SHALE/TAR SANDS PROJECTS

Currently there are a number of projects identified at varying stages of development. These projects can be categorized as follows:

First Generation Oil Shale Projects: Paraho, White River Oil Shale Project, Tosco, Geokinetics.

Other Projects: Syntana, Cleveland Cliffs, Ramax Oil Shale Project, Naval Oil Shale Reserve, Magic Circle.

Private Company R & D Projects: Texaco & Raytheon Oil Shale in-situ Project, Cleveland Cliffs & ITT Tar Sands in-situ project, Halliburton ITT Research Oil Shale Project, Exxon.

In addition, the Energy and Mineral Resources Department of the Ute Tribe has undertaken an oil shale feasibility study to explore the possibility of commercial-level oil shale production within reservation lands.

Tar sands development projects include Asphalt Ridge (Sohio Cooperative Tar Sands Project) and Great National (in south Uintah and Emery counties).

For each of these projects, population projections need to take into account the differences between expected increases for various phases (e.g., feasibility study phase, construction phase, operation phase) and the possibility of varying operation level workforce demands depending upon varying barrels/day production levels.

The State Planning Coordinator's Office (SPCO) has an ongoing project-monitoring program which updates expected workforce requirements as the data are made available by industry. In addition to the data industry provides, the SPCO has developed a computer model (the Utah Process Economic & Demographic Model or "UPED") which incorporates data on the economic history of the region to produce a simulation of economic and demographic impacts based on certain assumptions. According to the SPCO, the UPED model

> has the capacity to produce projections which reflect any number of different growth scenarios. This has been very useful for Uintah Basin planning, having permitted projections to be made based on three different Basin energy development scenarios. The first, a 'baseline' scenario, attempts to forecast the growth or decline that would occur without the six planned energy projects. The second, a 'medium oil shale' impact scenario, projects conditions with the White River Dam, with the Moon Lake Power Plant in Utah (the Moon Lake-related coal mine not included), and with the four Utah oil shale projects producing 113,000 barrels of oil daily by 1990 (the DOE production goal). . . . The third scenario, 'high oil shale impact,' is identical to the medium one, except that it assumes the White River shale project is large enough to permit four-project shale oil production of 177,000 barrels per day by 1990. This scenario reflects the oil production level which the four shale projects now plan on.[2]

The most current industry-based projections available are taken from an SPCO report dated April, 1981. According to that document, the following projections are available for the four major oil shale projects: Table 1 presents the projected direct employment requirements over the next 12 years;

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[2] Uintah Basin Oil Shale Impact Study, Interim Report, October, 1980, P.II:1,2

given a "medium" energy development scenario (total production 117,000 barrels/day); Table 2 presents the direct employment projections given a "high" energy development scenario (177,000 barrels/day) for four oil shale and one tar sands project.

The following is a brief description of the four major oil shale projects in their current state of development:[3]

White River Shale: The White River Oil Shale project is assumed in this scenario to move to completion of its Phase 2--the first phase commercial operation--and produce 50,000 barrels/day. The White River Phase 1, which is a demonstration project producing well below commercial quantities, is expected to be completed and operational in 1985. At this point, construction is assumed to begin on Phase 2. This construction peaks in 1988 at over 4,000 workers and is planned for completion in 1991. Operations employment for Phase 1 begins in 1983 and for Phase 2 in 1986. Full staffing of Phase 2 is assumed to occur in 1991.

Tosco-Sand Wash and Paraho: The Tosco-Sand Wash and Paraho projects both, like White River Shale, consist of above-ground room and pillar mining techniques. Tosco is the larger of the two and has the longest construction cycle. Tosco construction is assumed to start in 1982, peak at 1,300 workers in 1983 and 1984, and to be completed during 1986. Tosco operations will begin in 1986 with the operation being fully staffed in 1989. Paraho's full operation staffing is assumed to be in place in 1986.

Tosco and Paraho have indicated their interest also in examining the possibility of providing on-site bachelor camp facilities for a portion of their construction-cycle workforces. As with White River Shale, only a

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[3] Taken from Energy Development in the Uintah Basin: Economic/Demographic Impacts, State Planning Coordinator and Bureau of Economic & Business Research, SLC, Utah, June, 1981.

first approximation of the potential size of these camps can be provided currently. Again, an assumption of up to one-third of the construction workers housed in camps was made for these two projects.

Geokinetics: The Geokinetics oil shale operation is currently in demonstration-phase operation. The company's intention is to expand into commercial operation by 1983-84 and to gradually expand to a full 20,000 barrels/day commercial operation, requiring 500 workers, by 1992. Geokinetics' operation involves an in-situ retorting process which requires no significant above-ground facilities. Thus, no construction phase work force is indicated for the possibility of surface retorting of underground mined shale, since the company's assessment is that the likelihood of undertaking such a project by the year 2000 is too remote to justify including it in the scenarios analyzed here.

Table 1

DIRECT EMPLOYMENT ASSUMPTIONS*
UINTAH BASIN MCD
MEDIUM SCENARIO

Project	Barrels Of Oil/Day	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1984	1995
WHITE RIVER SHALE																
Construction	50,000	132	576	1,830	1,032	346	1,032	2,390	4,037	3,797	1,518	280	0	0	0	0
Operation		0	0	10	68	369	838	885	991	1,286	1,867	2,215	2,215	2,215	2,215	2,215
GEOKINETICS																
Operation	20,000	28	37	50	100	150	200	250	300	350	400	450	500	500	500	500
TOSCO, SAND WASH																
Construction	43,000	0	30	400	1,100	1,900	2,650	3,150	3,250	2,000	1,000	500	0	0	0	0
Operation		0	0	0	0	0	450	825	1,125	1,200	1,200	1,200	1,200	1,200	1,200	1,200
PARAHO SHALE																
Construction	30,000	0	800	1,300	1,000	300	0	0	0	0	0	0	0	0	0	0
Operation		0	0	0	500	1,000	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
TOTAL																
Construction		132	1,406	3,530	3,432	3,246	3,982	5,540	7,287	5,797	2,518	780	0	0	0	0
Operation		28	37	60	668	1,519	2,988	3,360	3,976	4,636	4,967	5,365	5,415	5,415	5,415	5,415
GRAND TOTAL	143,000	160	1,443	3,590	4,100	4,765	6,970	8,900	11,203	10,433	7,485	6,145	5,415	5,415	5,415	5,415

*SPCO, April, 1981

Table 2

DIRECT EMPLOYMENT ASSUMPTIONS*
UINTAH BASIN MCD
HIGH SCENARIO

Project	Barrels Of Oil/Day	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
WHITE RIVER SHALE																
Construction	100,000	132	576	1,830	1,032	346	1,032	2,390	4,037	3,797	2,938	2,879	1,518	280	0	0
Operation		0	0	10	68	369	838	885	991	1,286	1,867	2,215	2,492	3,040	3,353	3,353
GEOKINETICS																
Operation	20,000	28	37	50	100	150	200	250	300	350	400	450	500	500	500	500
TOSCO, SAND WASH																
Construction	43,000	0	30	400	1,100	1,900	2,650	3,150	3,250	2,000	1,000	500	0	0	0	0
Operation		0	0	0	0	0	450	825	1,125	1,200	1,200	1,200	1,200	1,200	1,200	1,200
PARAHO SHALE																
Construction	30,000	0	800	1,300	1,300	1,000	300	0	0	0	0	0	0	0	0	0
Operation		0	0	0	500	1,000	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
SOHIO TAR SANDS																
Construction	20,000	0	0	0	0	0	0	485	715	1,218	447	0	0	0	0	0
Operation		0	0	0	0	0	0	0	243	513	563	563	563	563	563	563
TOTAL																
Construction		132	1,406	3,530	3,432	3,246	3,982	6,025	8,002	7,015	4,385	3,379	1,518	280	0	0
Operation		28	37	60	668	1,519	2,988	3,360	4,159	5,149	5,530	5,928	6,255	6,803	7,116	7,116
GRAND TOTAL	213,000	160	1,443	3,590	4,100	4,765	6,970	9,385	12,162	12,164	9,915	9,307	7,773	7,083	7,116	7,116

ALL NUMBERS REPRESENT ANNUAL AVERAGES OR MID YEAR ESTIMATES.

*SPCO, April, 1981

As may be observed in Tables 1 and 2, the construction level workforce generally precedes and is substantially greater than the more permanent (operation and mining) workforce.

FACTOR 2: OTHER DEVELOPMENTS REQUIRED FOR OIL SHALE DEVELOPMENT

The direct employment requirements of industries providing essential resources to the oil shale industry (especially power generating facilities and adequate water supplies) also need to be taken into consideration in examining growth projections for the Basin. Three power/water projects have been identified (and are at varying stages of development). The three are:

Central Utah Project (CUP)

White River Dam

Moonlake Power Plan (Unit #1, Deseret Generation and Transmission)

The following is a brief description of the three water and power projects (listed above) according to the latest information provided by the SPCO (June, 1981):

The Central Utah Project: The U.S. Water and Power Service intends to continue construction of a number of elements of the Central Utah Project during the next two decades. The specific elements involved in the figures presented here are: completion of the Upalco unit, the Upper Stillwater project, the Strawberry collection system, and Duchesne River Canal Rehabilitation in Western Duchesne County; the Uintah unit in Eastern Duchesne County, the Jensen unit near Vernal, and improvements to water systems in the Roosevelt, Western Uintah County and Vernal areas.

White River Dam: The Utah Division of Water Resources proposes an impoundment project on the White River near the Federal Oil Shale Lease Tracts U-a and U-b (leased by the White River Shale Project) for the primary

purpose of meeting the water needs of the oil shale developments. The employment schedules assumed here are taken from the Draft White River Dam Project Environmental Impact Statement.[4] No special assumptions regarding bachelor camps, etc., have been suggested regarding this project.

Moon Lake Power: The Deseret Generation and Transmission Cooperative proposes the installation of an 800 MW coal fired steam electricity generation station near Bonanza. The direct employment figures presented here are taken from the project draft environmental impact statement.[5]

Table 3 presents the annual direct employment requirements for these three projects.

Table 3

POWER/WATER PROJECTS
DIRECT EMPLOYMENT REQUIREMENTS

Project	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
WHITE RIVER DAM										
Construction	0	94	94	36	36	0	0	0	0	0
Operation	0	0	0	0	5	5	5	5	5	5
MOON LAKE POWER										
Construction	119	275	760	1,021	710	252	0	0	0	0
Operation	2	4	41	108	172	200	200	200	200	200
*CENTRAL UTAH PROJECT										
Construction	534	634	498	632	556	476	586	471	317	149
Operation	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	655	1,007	1,393	1,797	1,479	960	816	703	549	361

* Corrected CUP figures as reported in SPCO report, June, 1981.

[4] Bureau of Land Management, Department of Interior, Vernal, Utah, 1980.

[5] Moon Lake Power Plan Project Units 1 and 2 Environmental Impact Statement Draft, Bureau of Land Management, Department of the Interior and Rural Electrification Administration, Department of Agriculture, Salt Lake City, Utah, 1981.

In addition, other projects in the Basin include 90 miles of planned road construction, two major bridges, construction of a pipeline (the proposed White River Oil Shale Pipeline) and improvements to the airports serving the Uintah Basin.

FACTOR 3: SECONDARY SERVICE WORKERS

Secondary service workers are defined as those individuals employed outside the basic (manufacturing) sector of the economy. Included in this designation are employees of government, schools, the retail industry, and the real estate industry. The number of workers in this sector expands somewhat rapidly as additional services are provided to communities experiencing population influx due to energy or other development. For example, Senator Malcolm Wallop, of Wyoming, has reported the following relative to the impact of rapid growth:

> When a rural community grows by 1,000 people, the new pressures put on the local government are tremendous. It must find an additional 100,000 gallons of water per day and a place to store it; an additional two miles of sewer lines; $175,000 worth of sewer treatment facilities; six miles of streets; $10,000 worth of signs; 102 street lights; 4.8 acres of parks; 1/3 of a garbage truck; 1.8 policemen; 1.5 firemen; 6.5 other new employees. Add to this 4.8 elementary classrooms, 3.6 high school classrooms and funds to keep everything in operating order.[6]

As Senator Wallop clearly points out, as the direct (energy-industry) workforce grows, a market is created for services from a secondary workforce (teachers, public safety - police, fire, etc. - government employees, large and small businesses, etc). The secondary (indirect) workforce then grows to meet demands, further fueling the overall population growth. Secondary

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[6]Wallop, M. "Energy Impact: A perspective from the Senate on Federal causes, cures and conflicts" in The Boom Town: Problems and Promises in the Energy Vortex, Davenport J. and Davenport J.A. (Eds). University of Wyoming, Laramie, Wyoming, 1980.

service workers in turn add to the overall demand for services. It is estimated that for every direct industry position, one secondary service position will be generated.

Of course, the impact of secondary service workers will be contingent upon the proportion of these jobs which are filled by people who are currently residents in the area or are new residents who are family members of direct industry people. Additional specific data of this sort can be developed with assistance from industry and the SPCO in order to achieve a fairly reliable estimate of secondary workforce upon which to base planning efforts.

An estimate of the number of secondary workers which could be expected as a result of a "medium" energy development scenario (including water and power projects) was developed by the SPCO using the Utah Process Economic and Demographic model (UPED). These data are presented in Table 4.

TABLE 4

SECONDARY SERVICE WORKERS NEEDED IN A "MEDIUM" DEVELOPMENT SCENARIO

	1983	1985	1987	1989	1991	1993
Needed as a Result of Construction Workforce Demand	1690	1682	1788	1807	372	110
Needed as a Result of Operation Workforce Demand	71	871	2180	2995	4236	5119
TOTAL	1761	2553	3968	4792	4608	5229

The figures presented in Table 4, however, are subject to some degree of variance in that a significant number of these service-sector positions will likely be filled by individuals who already reside in the Basin. Projections by the Uintah Basin Energy Planning and Development Council indicate that approximately 30% of these jobs will be filled by local residents.

FACTOR 4: DEPENDENTS

In generating population figures, a fourth factor to consider is the number of workers in direct industry and secondary service who will take families with them as they move to a new area. Generally, fewer construction-phase workers than operation-phase workers are married (or if married, fewer are likely to take their families with them) because of the relatively high degree of mobility inherent in construction work. Conversely, a higher percentage of "permanent" employees are likely to relocate their families, a move generally supported by industry in their efforts to maximize employee morale and minimize worker turnover. Secondary service workers also tend to be less mobile and, therefore, are more likely to seek a community in which to "put down roots" and raise families.

While projection models differ in the figures they employ to estimate the number of dependents which could be expected, a 3.4 multiplier[7] can be used to gain a gross estimate of the family size which could be expected for each (permanent) married worker in the Uintah Basin. Households of migrant employees (such as construction-phase workers) can generally be expected to consist of approximately 3.2 family members. The usefulness of population projections is largely governed by the extent to which they include other

[7] This figure was suggested by Brad Barber, State Planning Coordinator's Office in private communications, 04/5/82.

household members (of both direct and the secondary workforce) in the total figures.

FACTOR 5: FEDERAL/STATE/LOCAL CONSTRAINTS

A fifth factor to consider in looking at population projections concerns the changing political climate at the national and local levels. President Reagan's decision to cut subsidies to companies undertaking synfuels development could affect smaller companies relying on these subsidies.[8] The recent decision eliminating Paraho from competition for synfuels funding may have a significant effect upon the level of oil shale development activity by that company. A decision to withdraw or cut design capacity would in turn affect the overall population estimates reported herein.

Changes in federal direction will likely have little or no effect upon those oil shale developments fully underwritten by private business. It now appears that the Uintah Basin projects least likely to be affected by these policy changes are White River Oil Shale and Geokinetics. However, while changes in federal policy directions may not affect certain of these projects, the current reduction in oil and gasoline prices triggered by the world-wide "oil glut" may lead private industry to reconsider the economic feasibility of oil shale development at this time. Because oil produced from oil shale is considerably more expensive than that extracted through conventional processes, it requires per barrel prices in the $38-40 range to make the shale extraction process economically competitive. With current prices on a barrel of crude in

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[8] March, 1982--Three projects in the Basin had applied for federal assistance and may be affected by the proposed cuts: Paraho, Syntana, and Plateau Refinery. None of these projects survived the final "cut" in selecting projects eligible for federal synfuels funding.

the $28-32 range, private companies may decide to postpone development plans to another, more economically advantageous, time. These changes in economic climate and demand were unforeseen 15 months ago when the U.S. Dept. of Energy first commissioned this study, and may seriously affect the projections and assumptions of this report.

Other constraints to development may occur at the local level. For example, in Colorado, Rio Blanco County Commissioners have required private industry to comply with their own requirements (such as a requirement that industry provide resources to mitigate socio-economic impacts) prior to locating in the county. The extent to which local authorities in the Uintah Basin follow Colorado's approach in negotiating with industry could affect the impact of rapid population growth.

FACTOR 6: POPULATION DEPLOYMENT

In order to meaningfully employ the population figures in planning the resultant educational impact, it becomes necessary to "tie down" the areas where people are most likely to settle. According to the reported experiences of other energy developing areas in the west,

> The two primary factors which have been found to influence residential distribution are relative community size and relative distance to place of work. The larger the community, the more attractive it will be. Also, the easier it is to get to, the better able it is to compete for residents. These two factors are frequently combined in mathematical 'gravity' models to relate people's place of residence to their place of work. Such a gravity model was used to make a first-round distribution of future Uintah Basin growth, basing the predicted amount of growth each community will receive solely on its size and its distance from each of the major energy projects...on the basis of these two factors (and again, there are many other factors to eventually consider), it appears that the Vernal-Ashley Valley area could attract up to 70 percent of all anticipated growth, with 20 to 25 percent going to Ballard and Duchesne County's large communities, and about five percent going to the Rangely, Colorado, area.[9]

[9] Uintah Basin Oil Shale Impact Study, Interim Report/10-80, pp. III:1-2.

The figures cited in the following tables are based upon some assumptions underlying the gravity model reported above. These assumptions are:

1. None of the projected growth will occur outside of the urbanized areas. Of course, some new people will choose to live in the smaller outlying communities. But at this time there is no reason to believe that very many will. Thus, for rough estimation purposes, this assumption seems plausible.

2. The proposed major road improvements will soon be made between Ouray and Geokinetics, between Ouray and Bonanza, and between Vernal and Bonanza. In addition, the present unimproved road between Bonanza and Rangely will not be a viable commuter route.

3. Utah communities will feel little or no impact from western Colorado energy projects. All of the currently-planned Colorado energy projects are to the east of Rangely. Indeed, they are so much closer to Rangely, Meeker, and other Colorado communities than to Utah's towns that they should absorb nearly all growth from Colorado projects. Rangely, however, is also close enough to some of the Utah projects, without other major towns in between, and seems to have sufficient unused capacity in several important public facilities, that it could attract some workers from Utah projects.[10]

As stated earlier, a major goal in working with population projections is to secure the greatest degree of specificity possible. Thus, population projections for the Basin (although instructive in providing a perspective of overall impact) fail to provide the degree of specificity needed for planning the provision of community services. A second level of analysis (employing the gravity model discussed earlier) narrows the projections to sub-areas within the Basin where growth is most likely to occur given the assumptions listed above. Impact projections for these sub-areas are presented in Table 5. For the purpose of educational planning, these sub-regional breakdowns are useful in identifying those areas in the affected school districts where education-related facilities may need to be located.

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[10] Uintah Basin Oil Shale Impact Study, Interim Report/10-'80, pp. III:5-6.

Even more useful for these purposes would be the identification of specific areas within municipalities where new residents would likely settle. However, such an analysis would include a sizable error factor because other elements such as personal preference, the "desirability" of certain neighborhoods, etc., are difficult to predict through computer models. Nevertheless, one useful mechanism for identifying likely areas of development within municipalities is the identification of transportation and land use patterns. Major sewer and utility trunk lines tend to follow existing roadway right-of-way. By working with local land use planners and municipal Master Plans, the school authorities can begin to select and purchase land in areas of compatible land use (i.e. residential).

TABLE 5

UINTAH BASIN MCD
COMBINED DEMOGRAPHIC IMPACTS*
OF A MEDIUM ENERGY DEVELOPMENT SCENARIO**
DISAGGREGATED BY CENSUS AREA

YEAR	ROOSEVELT CENSUS AREA	VERNAL CENSUS AREA	RANGELY CENSUS AREA	REST OF AREA
1983	2,555	7,016	576	2,456
1985	3,254	9,991	854	2,479
1987	3,979	17,068	1,246	2,753
1989	4,633	21,288	1,529	2,768
1991	4,679	17,269	1,228	1,308
1993	4,890	18,733	1,910	1,092

* Construction and operation; direct and secondary workforce plus dependents.
**These population figures are above and beyond normal growth patterns.

FACTOR 7: SCHOOL AGE POPULATIONS

Once potential growth locales have been identified, it becomes necessary to know more about the specific character of the in-migrating population. Based upon research data from other western communities, the SPCO's computer modeling program has the capability of projecting family composition of "typical" energy industry workers. In response to a request by the USOE, the State Planning Coordinator's office has combined the elements in the computer-based gravity model with their data on families to provide a breakdown of how many elementary and secondary students could be expected to settle in the Vernal-Ashley Valley area and the Duchesne-Myton-Roosevelt-Ballard Area given "medium" and "high" development scenarios (and assuming that all growth takes place in existing communities). These data are presented in Figures 3 and 4, and in more detailed fashion in Appendices A and B. It is important to remember that the data presented in Figures 3 and 4 represent projections of additional demand on educational services by school age populations above and beyond that which could be expected from growth patterns. Figure 5 presents the composite growth projections for the Uintah School District at a baseline growth rate (of 3.5%) and at a "medium" development level.

FIGURE 3

VERNAL-ASHLEY VALLEY

Medium Energy Development Scenario
School Population Impact
K-12

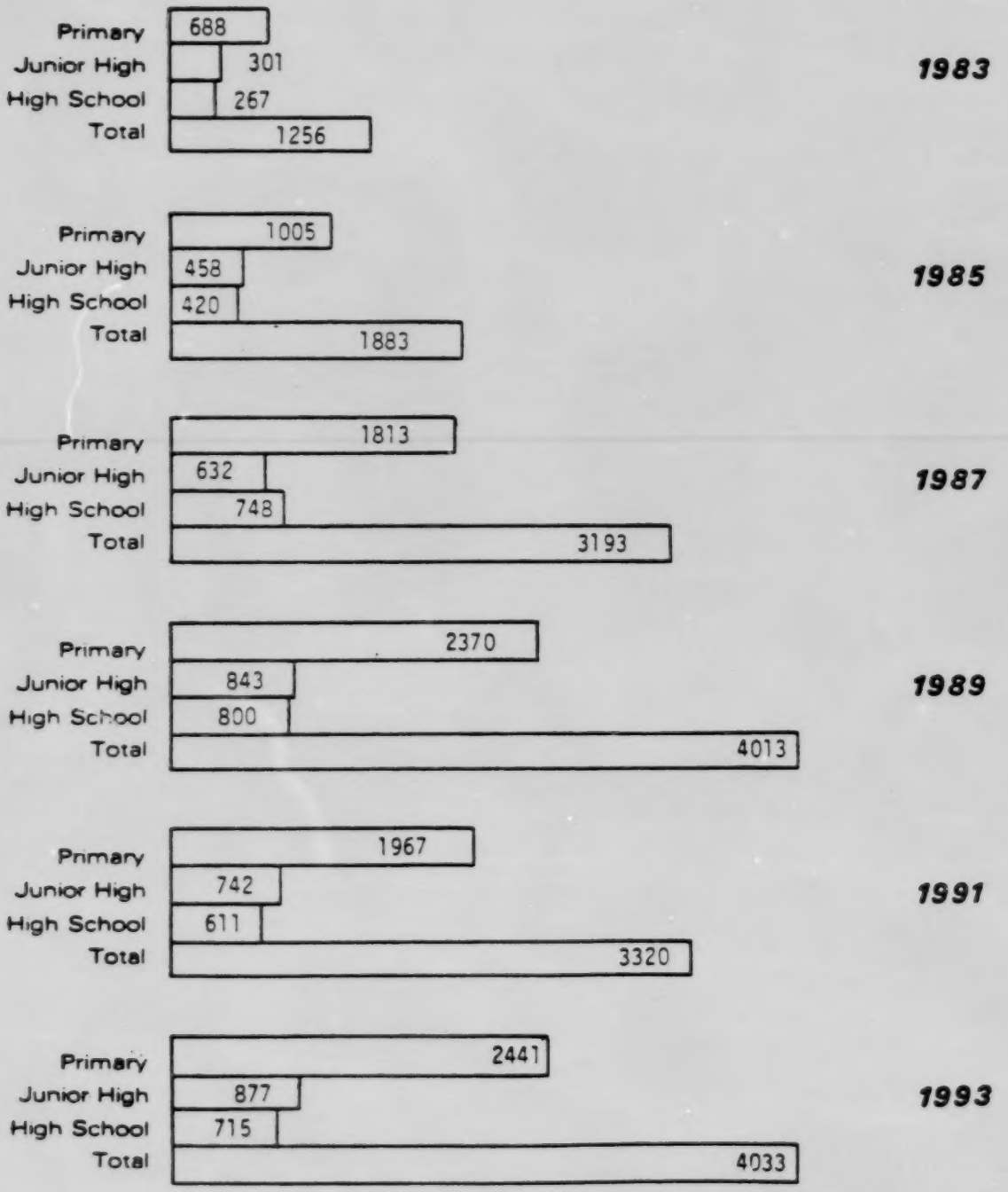
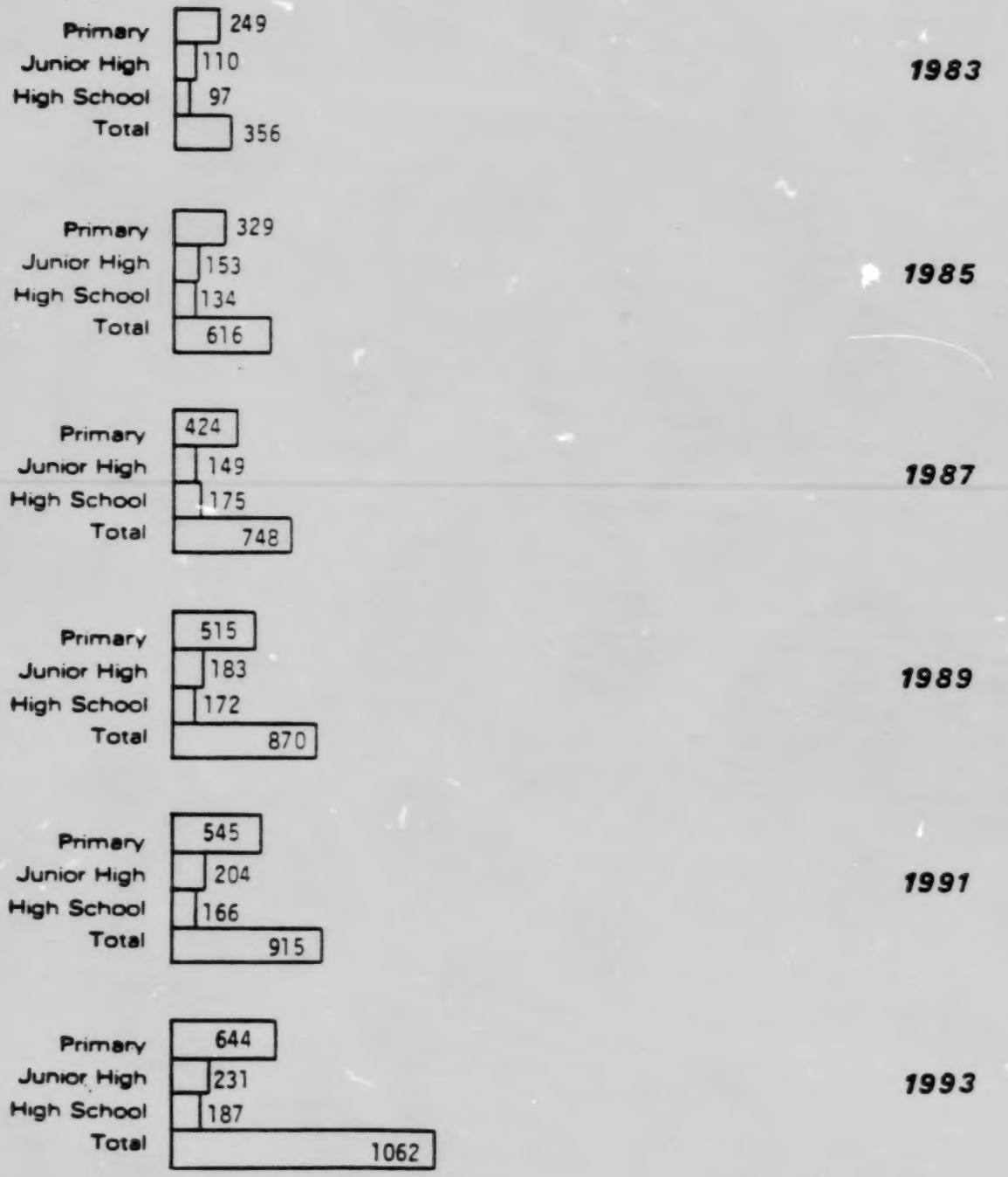


FIGURE 4

ROOSEVELT Medium Energy Development Scenario School Population Impact K-12



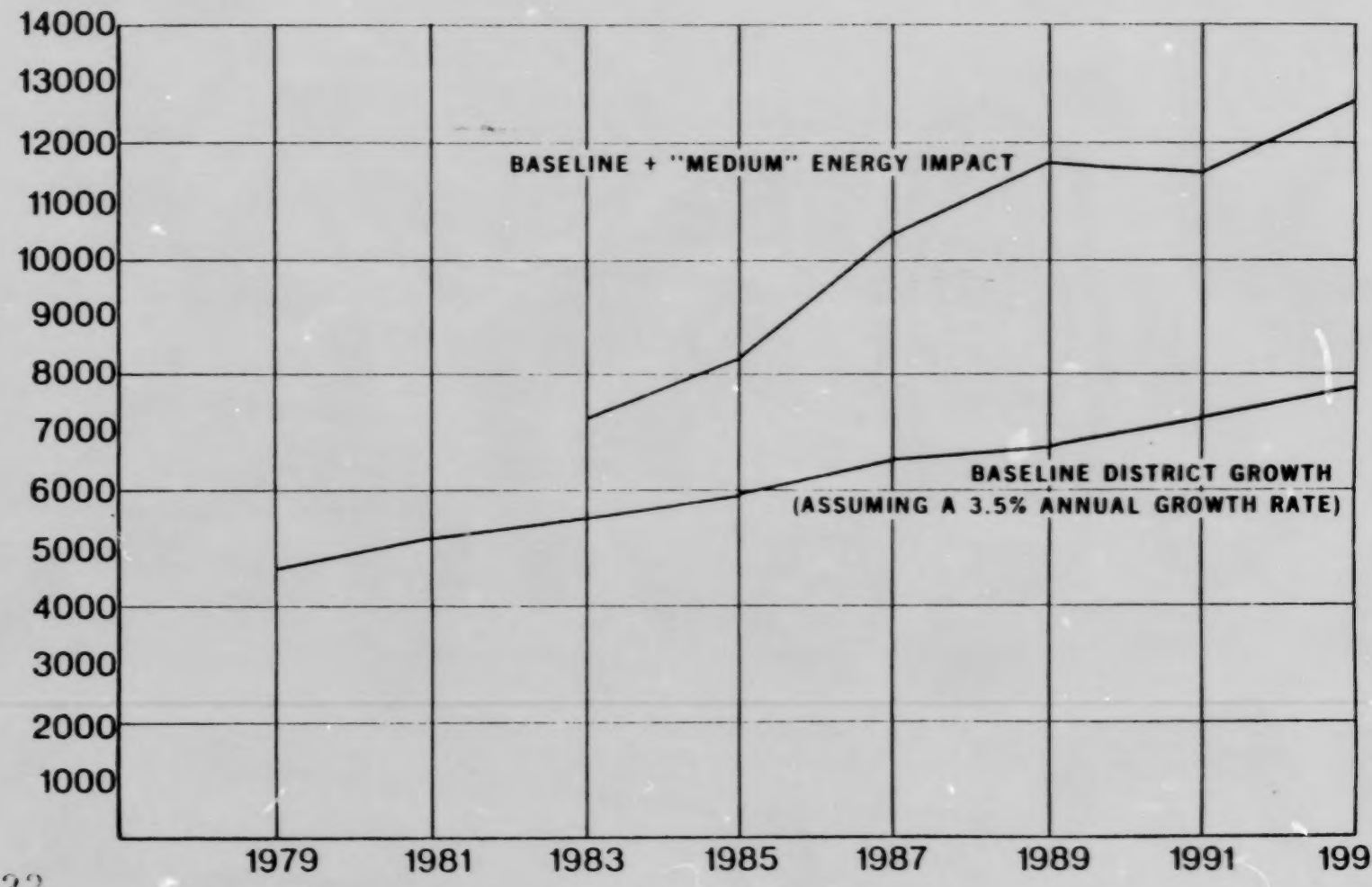


FIGURE 5

Uintah School District Growth Projections

SECTION 3

PROJECTING EDUCATION-RELATED CONCERNS

The following gives an overview of some education impacts which have taken place in other rapid growth communities in the western states. The issues raised herein do not comprise the sum total of educational concerns. However, they serve to acquaint the reader with the most pronounced problems experienced by the Education establishment in rapid growth communities. While the focus of this discussion is principally the public school system, many of these same issues will affect other components of the educational system. This is because, almost invariably, problems affecting one component will ultimately affect the other components of the educational system. These problems are discussed under the following headings:

- o Immediacy
- o Facilities and other operating requirements
- o Financing options
- o Recruitment and retention of staff
- o "Gearing up" for new student populations

IMMEDIACY

The experience of other communities which have faced rapid growth has indicated that while it may be possible to delay some services required by new residents, schools must provide immediately for new students. Although the amount of forewarning and lead time available to school districts may vary, the demands upon the public schools begin the moment new employees relocate their families. This demand for services is not only the concern of the new workforce--it is in the industry's interest to see that the school

system (and by extension, other educational services) respond effectively to the new demand. Otherwise, industry runs the risk of employee dissatisfaction and turnover because of limited educational offerings. As an example, in Ticaboo, Utah, (a uranium mining town in south central Utah), the readiness of schools to adequately provide for new students affected the decision of certain employees to remain in the area.

FACILITIES AND OTHER OPERATING COSTS

Probably the most obvious need when rapid increases in student enrollments occur is the need for classrooms and other educational facilities. Several factors affect this area of concern:

Lag time between need and availability: It often takes two or more years from the time the need appears in the form of increased enrollment to the time when buildings to take care of such needs can be completed. Many, if not most, community residents are loath to vote for a bonding proposal simply on the basis of population projections. Thus, constructing needed school facilities to keep pace with rapid growth can be a difficult task for educational managers.

Acquisition and location of property for school sites: The influx of speculators to an area experiencing rapid growth can quickly drive up land prices to unreasonable levels. While most educational systems such as the public schools have established processes for purchasing property for future school building construction, it often happens that the districts' land holdings may be located in areas which do not necessarily match the demand sites. Earlier in this report, there was a brief discussion on the need to coordinate with local land use planners to identify those areas (within given municipalities) most likely to face expansion. That recommendation entails

the development of an on-going dialogue between cities/counties and the various educational institutions in order to better coordinate appropriate land purchases.

Planning for educational facilities: In planning for educational facilities, one needs to take into consideration the differences between construction-phase and operation-phase workforce requirements, for those differences will affect the total number of students entering and continuing in the system. As an example, those involved in planning for public school facilities will need to weigh the advantages and disadvantages of building permanent traditional buildings or using portable modular facilities or developing multiple-use facilities in conjunction with other community service providers.

Identifying and planning for other operating costs: Each district and each school must determine, on the basis of its own policies and expenditures, what the costs will be to provide for additional enrollments. Some guidance can be gained from schools which already have experienced rapid growth. Among the items recommended for inclusion in the lists of projected costs are (1) Costs of acquiring land for new school sites, (2) Construction costs for classrooms and other learning facilities e.g., physical education and recreation centers, vocational education facilities, etc., (3) Costs associated with provision of adequate numbers of professional, support, and classified personnel, (4) Costs associated with provision of appropriate instructional and learning materials, (5) Transportation costs, and (6) Costs associated with provision of services to meet special student needs.

FINANCING

In general, problems associated with rapid growth will not be satisfactorily resolved without adequate finances. As a result, forecasting the

nature of industrial and population growth requires the forecast of financial requirements for meeting educational needs. Then ways and means must be found to obtain the funds in a timely way so the building, transportation, personnel, materials and other requirements can be provided for as the needs arise.

Scheduling: A critical aspect of projecting additional costs will be forecasting a schedule related to such costs. Generally, the facilities/building costs require the longest lead time and the most money; therefore, these needs often receive prime attention by district personnel and local school boards. Nevertheless, it is important that impacted districts develop a comprehensive schedule of all financial requirements resulting from rapid growth (see identifying and planning for other operating costs).

Financial resources: As financial needs are being forecast, the availability of financial resources should be similarly predicted, and also scheduled. Generally the existing tax base need not be considered, since it will be necessary to use it to fund the on going school program. If there should be taxing and/or bonding leeway, these will undoubtedly be very useful. In general, however, needed financial assistance will come from added tax base, bonding capacity based on the increased tax base, special State assistance, and assistance from the energy companies which are creating the growth impact. These are briefly discussed below:

Tax-Base growth: While conditions may vary from community to community, residential housing may be the first part of the new growth to go on the tax rolls. Some small businesses will perhaps be next, but the bulk of added property taxes will not become available until the major energy projects are completed and become operational. Secondary plants and businesses may also add considerable amounts in some areas.

Bonding: Bonding capacity is directly tied to the tax base; that is, to the ability to repay the funds borrowed through bonding. Once the tax base growth for major developments has been projected, it is a relatively simple process to calculate the increased bonding capacity. However, increase of bonding capacity as a result of tax base growth from secondary industry is less predictable because secondary industrial growth is contingent upon (1) existing secondary industrial support, (2) production levels in the primary development, and (3) economic fluctuations in the region.

State-Assistance: State assistance is principally derived from four sources: (1) the use of a severance tax mechanism to provide mitigation funds, (2) the use of mineral lease and other royalty payments to provide for mitigation funds, (3) the authorization of tax prepayment by industry for use by local taxing entities for mitigation purposes, and (4) the mandate to major developers to provide mitigation funds for socio-economic impacts. During the most recent Utah legislative session (1982), Governor Matheson proposed legislative action to aid those areas of the state anticipating growth impact. Although his proposal for a severance tax failed to pass during this budget session, it is certain that future legislative sessions will need to deal with the severance tax issue.

In other western states, a substantial portion of severance tax revenues have been utilized to cover additional debt service for bond issues. Severance tax revenues have also been used to augment funds set aside in "community impact accounts" to assist local governments to cope with costs associated with large-scale energy development.

Several years ago, the State Legislature authorized the creation of a Community Impact Board administered by the State Department of Community Economic and Development. Mineral lease funds are currently utilized by the Impact Board to provide grants and low or no interest loans to impacted communities. It is expected that this body will also administer the funds derived from the royalty payments on the federal oil shale lease tracts Ua and Ub.

Also in relation to provision of impact funds, the 1981 Utah Legislature passed a bill (SB 170: Property Tax Prepayment/Impact Development) authorizing the prepayment of property taxes which can be utilized by local entities for impact mitigation. It was partly as a result of this bill that Deseret Generation and Transmission released several million dollars to the Uintah School District (as prepaid taxes) to be used for district building needs. There is, however, one danger in relying too heavily upon tax prepayment as a means to pay for building construction to meet additional growth demands. Since school districts build their capital outlay budgets upon their projected property assessment revenues, taxes paid now will later affect yearly district budget allocations for building construction because of diminished revenues resulting from the tax credits. It is for this reason that more and more school districts seek to negotiate outright impact mitigation grants from industry so as to not unduly compromise future revenues. This same bill requires that large scale developers prepare socio-economic impact mitigation plans to be reviewed and agreed upon by affected entities (including impacted school districts) and utilize said plans as the basis for negotiating impact mitigation with local entities.

Project assistance: There is a growing feeling in impacted areas that the energy-development companies creating the population growth should participate directly in providing resources to alleviate the problems accompanying that growth. While several of the major oil shale projects have expressed a commitment to provide impact assistance, no specific negotiations in this area have been initiated pending a determination of whether the Utah share of the Ua and Ub lease receipts (approximately $48 million) should be applied toward impact mitigation (as advocated by the companies) or whether companies need to provide additional funds for socio-economic impact mitigation.

While some areas have been able to establish, at the outset, good working relationships with industry, other areas have not been quite so fortunate. In a series of articles on the impacts of energy growth written by John Cummings, former Education Editor for the Salt Lake Tribune, certain school district officials in other growth impacted communities are quoted as follows:

> "...School districts must take a hard-nosed approach and insist on some help at the front end. The companies here (Rock Springs, Wyoming) have been cooperative, but you have to take a hard stand or they won't do it for you."
>
> Jack Smith, Superintendent
> Rock Springs, Wyoming

Not all school districts, however, have been successful in negotiating with industry:

> "We didn't work with industry with enough bite in the development stage. Now the companies say, "We're your biggest tax payer!"
>
> Lester Turner,
> Ass't Superintendent
> Craig, Colorado

School authorities who have experienced rapid growth due to energy development recommend that school districts:

> "Insist on zoning ordinances or statutes such as the one in force in Colorado that require developers to set aside a percentage of the land they are developing for public use such as parks, fire station locations, or public school sites."[11]

Unfortunately, other educational programs and institutions may not be as visible as the public schools and, therefore, fail to have the clout that school districts can have through their taxing ability. However, if the total educational establishment coordinates its efforts, the possibility that non-traditional funding sources can and will benefit the total educational span is enhanced.

RECRUITMENT AND RETENTION OF STAFF

Obtaining the additional staff required for enrollment increases is sometimes very difficult. Among the reasons for this are (1) reduced levels of available community services, (2) isolation and "burnout", (3) competition from higher-paying jobs, (4) housing problems, and (5) changing roles and role expectations. These are briefly outlined below:

Reduced levels of available community services: Most energy development occurs in sparsely-populated rural areas. Such areas have long experienced difficulties in recruiting teachers willing to forego the services and products available in urban areas. While the growth of an energy "boom town" may bring some of the urban services to the previously rural area, the period of rapid growth also brings a number of additional problems (such as shortages of goods and services) which compound the reluctance of staff to locate in rural areas.

Isolation and "burnout": Rural communities generally have strong informal support networks existing in the community. Under normal conditions

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[11] "Intermountain Area's Schools Fear Impact of Energy Development" The Salt Lake Tribune, Dec. 29, 1979.

these networks serve to assimilate newcomers into ongoing community life. The problem is, however, that these networks operate slowly and are generally based on a common history, shared experiences, and trust. Under conditions of rapid growth, these networks tend to break down and the more formal support networks become taxed to their limit. As a result, incoming personnel may find themselves in a community which is new to them and which provides them with only limited opportunities for integration into the mainstream of community life. Although teachers are recognized as a valuable community resource, a community operating under "boom" conditions is unable to provide the often intangible but meaningful acts of recognition which convey the message that teachers are valued. Because of the influx of students, crowded and unfavorable teaching conditions build, taxing the coping capacity of school personnel. All these factors combine to create a feeling of isolation and lack of appreciation which lead to "burnout". Increases in illness and absenteeism can generally be expected under these conditions, making the problem of recruiting and retaining quality staff all the more difficult.

Competition: Frequently, the energy projects creating conditions of rapid and significant growth also make available to teachers and non-instructional personnel job openings which pay more than the school system. As an example, Superintendent Kinder, in Emery County, said he lost 34 teachers and 5 staff members to higher paying industrial jobs during the 1978-79 school year. In Craig, Colorado, Assistant Superintendent Lester Turner is quoted as saying,

> "Our turnover is unreal. We hire teachers constantly, only to lose them because of the lack of housing or because of higher paying jobs. We start our beginning teachers at $11,300, but that won't touch what they can make in industry."[12]

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[12] "Boom Hits Schools Hard" The Salt Lake Tribune, Dec. 27, 1979.

Housing: One of the problems in recruiting personnel is the problem of adequate housing. In some areas, school districts have "gone into the housing business--they've had to (in order) to hire teachers."[13] For example, the Rock Springs district holds apartments through summer months to accommodate new teachers. In Craig, Colorado, the district office provides lists of available housing to incoming staff, and in Green River, Wyoming, the school district negotiated with local companies to provide mobile homes for teachers. In the Uintah School District, problems are already surfacing in this area as skyrocketing land values have inflated the cost of mortgage and rental payments beyond the reach of many new teachers.

Changing roles: Researchers (Cortese & Jones; Pietens[14]) have noted other effects in a boom community which impinge upon the educational system and have an impact on recruitment, retention, and the quality of service provided. Among these factors are changes in traditional work roles and trade-offs between maintaining reasonable teacher-pupil ratios and provision of other services such as counselors, psychologists, special education staff, etc. The role changes noted by Cortese & Jones include:

1. Creation of new roles. Schools have found the need for creating new roles such as vice-principal, hiring new types of teachers to meet expanding curriculum needs, and/or creating a number of non-educational roles.

2. Creation of more positions within existing roles.

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[13] Ibid.

[14] Cortese, C.F. and Jones, B. "The sociological analysis of boom towns," in Judith A. Davenport and Joseph Davenport (Eds.) Boom Towns & Human Services. University of Wyoming publication, Laramie, 1979.

3. Differentiation of roles. As the size and functions of institutions change, roles become more differentiated and specialized. For example, teachers who taught a variety of subjects now teach only one; or a teacher who was a part-time administrator now is a full-time administrator.

4. Redefinition of old roles.

These role changes create a need for additional skills on the part of teachers, administrators, and other school personnel. As a result, competence in a curricular content area may not be sufficient to function under rapid growth conditions. Administrators and teachers may then need to develop and expand their communication, planning, and problem-solving skills. These new need areas created by changing roles and community expectations require the commitment of time and resources to adequately inservice new (and continuing) personnel.

"GEARING UP" FOR NEW STUDENT POPULATIONS

The ultimate criterion on which an educational system can be measured is the extent to which it meets the educational needs of its students. Special problems are created under rapid growth conditions which affect the systems' ability to meet this responsibility. A discussion of some of these problems follows:

Demands for increased curricular offerings: New students often have differing educational needs from those of the resident community. Often the incoming student and his or her parents will have expectations of the schools which vary substantially from those held by "the locals". The newcomers are from diverse places and backgrounds, and some of them have experienced life in many communities. Collectively, they have experienced the good and bad features of many school systems, many classrooms, and many teachers. They

have certainly experienced broader curricular offerings and educational services than most rural schools are capable of providing. Hence, they will tend to have expectations which at least collectively, and in many cases individually, go beyond what the local schools can provide. These expectations may well result in patron dissatisfaction and conflicts because the system cannot provide (at least immediately) the level of curricular and extracurricular offerings and opportunities which are desired.

High transiency/turnover: In a boom community, some students may only be in the local school for a few weeks or a few months. Many problems arise as a result of this turnover. Integrating new students into the classroom becomes a problem, while the required paperwork and record keeping on entering and leaving adds up to a great burden.[15] School records are sometimes delayed, and may not arrive until the student has moved on. Fluctuations in class size may cause difficulty, with constant turnover making course planning harder. In extreme cases, half a class may be enrolled and then gone in a one-month period.[16]

Cummings, in his series of newspaper articles concerning energy booms and education, reports that in boom towns the school population has a large mix of "revolving door" students. Examples of this type of enrollment occurs in almost every impacted community:

> Jack Smith, Superintendent of Rock Springs, WY., schools, said that during the peak of construction on the Jim Bridger Power Plant, one of his elementary school principals reported "turning over" 50 students a month.
>
> In Craig, CO., Lester Turner. . .said a survey conducted in one of Craig's 600-student, K-4 elementary schools last spring found 60 percent of the enrollment had begun its public education somewhere else than Craig.

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[15] Cortese & Jones, 1979
[16] Pietens, 1979.

> Two years earlier, Craig began the school year with nearly 2,400 students. By mid-year, 480 had left the district while 350 new students had arrived. 'By spring we are picking up kids who have been in five different schools during the year,' Mr. Turner said.
>
> ...A. G. Kinder, Superintendent of Utah's Emery School District said he has students that have attended as many as seven schools in one year, and in Lyman, Wy., school officials reported enrolling a middle school student the first of October who had attended three different schools since classes began in September."[17]

Post-secondary students tend not to be quite so transient, and educational programs at that level are generally structured in relatively short, time-limited blocks. Nevertheless, a high rate of community turnover can be expected to have a rippling effect through all education levels.

Dropouts: Other communities which have received energy-related growth have reported an increase in dropouts, especially among those students with poor grades and with little parental concern. For example, high school boys have been attracted to high paying job opportunities in the oil fields and have dropped out of school to take advantage of them. Girls the same age have been attracted to single, well-paid oil laborers, and some drop out of school to get married. Also, the incidence of unwed mothers generally increases, also resulting in additional dropouts and changing educational demands.

Increased demand for Title I Services: A number of school districts which have faced rapid growth report that, in their experience, there tends to be a substantial increase in need and demand for Title I services. In enacting Title I funds, however, Congress specified that these funds were to

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[17] Cummings, J. "Boom Spells Trouble for Small Town Schools"; "Boom" Catches Schools Off-Guard"; "Schools Feeling Energy-Boom Impacts." in The Salt Lake Tribune, December 26-29, 1976.

be used in low-income areas. The reasoning was that areas which were economically depressed would also likely be the ones where greatest need for these services would exist. Unfortunately, areas that face "boom" type growth often face localized wage inflation which has the effect of raising the areas' overall wage level. Thus, some impacted districts have found themselves ineligible for Title I funds at precisely the time when they are being confronted with increased demands for such services.

Special Education Needs: Of all new students projected to enter the school system as a result of energy development in the Uintah Basin, approximately 12-15 percent will have handicapping conditions requiring additional services. Eighty-five percent of those students will be able to function in the standard instructional program with the addition of resource assistance from special teachers (the maximum teacher-pupil ratio for resource teachers is 1:35). The remaining 15 percent of those handicapped students will need to function in a self-contained, special education program which may be limited by law to a teacher-pupil ratio from 1:6 to 1:15 depending upon handicapping conditions. Again, the provision for these special education services can add considerably to the projected educational costs of energy-related population growth.

Curriculum Alterations: In areas with high turnover, the educational system needs to quickly assess the educational level of the incoming student and provide meaningful learning experiences over relatively brief time periods. In order to be able to accommodate these demands, the curriculum structure needs to be flexible, open-ended, and as individual as possible. In some cases, these demands may require the total revamping of curriculum

which in turn may require a substantial financial investment to cover staff curriculum planning time, new instructional materials compatible with revised curricula, and new technology to assist in the individualization of curriculum. This latter approach (the use of computer technology) has been used in other rapid growth districts in Utah to deal with these high transiency problems and to provide more flexibility to students in pacing their own learning process. In the areas where it has been tried, the use of micro-computers to this end has been enthusiastically received by both teachers and students. The application of this and other technologies needs to be critically investigated in school districts facing rapid growth and high turnover. Needless to say, this kind of revamping of curriculum is an expensive process which is rarely considered in projecting maintenance and operation (M & O) expenses.

Integrating New Students/Families Into On-going School Community: Among the difficulties which other western communities have experienced in coping with energy-related growth has been the issue of how to integrate the "newcomers" with the "old timers" in a way that minimizes isolation, conflict and often, culture-shock. Cummings cites Roy Brubaker, Colorado Associate Commissioner of Education, as explaining that,

> When you go from a solid ranching community to a booming, mobile construction town you have a whole new set of kids in the classroom. Their backgrounds are different, their values are different and their educational needs are different.

Cummings further notes the comments of Lester Turner, Craig (Colorado) School District:

> When you get a lot of in-migration it requires a lot of adjustment from both the resident students and the newcomers. When it happened here, you could look into any classroom and tell who was who - we had cowboys on one side of the class and

> newcomers on the other. Anyone new was suspect. It was the same in the community, but the kids adapted quicker to the cultural differences.[19]

This is an area in which there are no "easy solutions," and which requires the interest, commitment and creativity of the school and the community. If the Uintah Basin follows the pattern of community polarization evidenced in other western communities, it is clear that the school districts will need to take leadership in addressing this issue in order to prevent a deterioration of the "quality of life" within the educational system.

One approach for dealing with this and other social problems likely to result from rapid growth is the provision of inservice training to help school personnel cope appropriately. While some people may argue that these are concerns which should be addressed by the Department of Social Services instead of the public schools, it is clear that these kinds of problems certainly have an effect on a student's ability to function in a school environment. As a result, it is recommended that school personnel, at the very least, be given skills and problem identification, appropriate referral, and follow up. In addition, the schools need to develop or expand working relationships with other community resources in order to effectively address this and other human service problems. To reiterate, information on the following areas needs to be incorporated into ongoing inservice programs for school personnel:

Drug abuse problems: Cortese and Jones observe that energy booms tend to bring in an influx of drugs into the boom communities and their schools. Pietens says that the drugs are generally brought in by newcomers and that the ready availability of money in the boom town contributes to their spread.

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[19] Cummings, J. "Schools Feeling Energy-Boom Impact." The Salt Lake Tribune. December 18, 1979.

Polarization and lack of social acceptance: Differences, sometimes conflicts in cultures, values, and life styles contribute to divergencies between long-time residents and newcomers.. Polarization really begins with just the fact of newcomers vs. oldtimers, and is augmented by other differences.

Mental health problems: The incidence of mental health problems tends to be greater in boom towns, undoubtedly due largely to the difficult circumstances usually found in those communities. Data suggest an increase in family crises such as desertions, separations, divorces, child abuse, "family wars," etc. (Davenport and Davenport, 1979). Teachers and school personnel need to be sensitive to these problems and know how to deal with them most effectively.

SUMMARY

The information reviewed in this section strongly indicates that energy-related developments such as those proposed for the Uintah Basin will have a broad range of impacts upon the educational system. While many of the preceding issues have been framed in a negative, problem-oriented context, it is important to note that these potential problems can be turned into opportunities for innovation and creativity in the delivery of education services in the district. Keeping in mind that the same character in the Chinese alphabet can mean "crisis" or "opportunity" depending upon the context in which it is read, it is important to realize that energy-related growth will mean something more than size--growth will mean that things may need to done differently in education, but hopefully also that things can be done better.

The data presented also suggest that school systems facing conditions of rapid growth need to take a proactive rather than a reactive stance in

addressing these impacts. Superintendents and school board members need to work with school personnel, community members, and other interested agencies and groups in order to anticipate and plan for all possible educational concerns. The experience of impacted school districts in other western states indicates that the educational system also needs to take assertive action in negotiating with industry for impact mitigation. The only way to engage in successful negotiations, however, is to be able to identify and document the broad range of impacts which are expected, and be able to present plans of action to address these impacts. Therefore, long-range, comprehensive planning is not just a desirable "frill" for impacted school districts; it becomes the crucial basis for dollars and cents negotiation. The following section discusses a Community Based Education Planning process which not only meets district needs for an effective planning strategy, but also builds community understanding and support for its school system.

SECTION 4

DESCRIPTION, ANALYSIS AND CRITIQUE OF THE PLANNING PROCESS

WHAT IS COMMUNITY BASED EDUCATION PLANNING?

Community Based Education Planning is a process which utilizes the leadership of the school district to address problems which impact the schools and the community. Through this process, educators and citizens can join hands in anticipating future conditions and creating the kind of educational opportunities they believe are most desirable for themselves and future generations.

By using the terms "cooperative," "participatory," or "community based" planning, the intent is to convey the notion that citizen participation and the effective use of all available community resources are important elements of educational planning. The descriptors "long-range," "anticipatory," or "future oriented" suggest planning that looks ahead, forecasts events, invents the kinds of future conditions which are desired, and leads to the creation of a desirable educational future. Thus, the term "community based education planning" is intended to suggest the presence of all of these characteristics.

A successful Community Based Education Planning effort has four essential ingredients:

- o The establishment of a representative community planning structure.
- o The identification and mobilization of a wide-range of resources.
- o The adoption of systematic planning processes.
- o Capacity-building at the local level.

These four areas are discussed below, along with an explanation of how each of these areas contributed to the development of the recommendations and action plan which will be presented in later sections of this document.

Establishment of Local Planning Structures: Early in the process it became apparent that in order to effectively oversee the multi-faceted educational planning effort which was envisioned appropriate mechanisms, including a steering committee, ad hoc task forces, etc., would need to be established to engage educators and citizens in addressing specific areas of concern. As a result, school district officials, along with a cross-section of community and agency representatives in the Uintah Basin area were approached and invited to participate in the planning effort. Representatives from the Daggett School District declined to participate because few direct or indirect educational impacts were expected in that county (more on this in the section dealing with K-12 impacts in Daggett County). The Superintendent of the Duchesne School District agreed to assign district staff to participate in the planning process contingent upon approval by the Duchesne Board of Education. The Uintah Superintendent agreed that the planning effort was desirable and assigned staff to represent the district in the process.

An initial steering committee comprised of representatives from the two school districts, the PTA, the area vocational center, the university extension center, the association of governments (AOG), the Ute Tribe, the Department of Social Services, the Chamber of Commerce, the Employment Security office, and industry was convened a month following the beginning of the project. This committee met regularly for the first six months of the project in order to: 1) define its task, 2) gather preliminary data upon which to identify areas of educational planning concern, 3) work with the two school boards (Duchesne and Uintah) to select priority problem areas to be explored in greater depth, 4) organize and coordinate the planning process.

Near the end of the sixth month of the project, a good base of preliminary data had been compiled upon which the planning could proceed. Presentations were made to the two school boards to acquaint them with the work of the steering committee and enlist their support. At this juncture, the Duchesne School Board declined further participation by the district in the planning effort, citing the need to reallocate scarce staff to other pressing district problems. The Uintah School Board, however, unanimously endorsed the planning effort. The Board and Superintendent Ellis requested that the steering committee continue its work and focus its efforts in exploring the educational impacts of energy development upon the Uintah School District.

While it was disheartening to steering committee members to have the Duchesne School District discontinue its participation in the planning effort, it was felt that the viability of the planning process would not be significantly affected by Duchesne's withdrawal since the majority of oil shale impacts were projected for Uintah County anyway.[20] As a result, the committee membership decided to continue their work under the leadership of the Uintah School Board. One unexpected advantage which resulted from the withdrawal of the Duchesne School District was that the steering committee could focus all its efforts and resources upon addressing the district with the greatest need. Prior to Duchesne's withdrawal, the work of the Steering Committee had been, at times, frustrated by the pressure to address the needs and concerns of the most impacted school district (Uintah) without "slighting" the concerns of the other. The withdrawal of the Duchesne School District served to narrow, and thus enhance, the work of the steering

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20 APA Planning & Research projections, taken from their Uintah Basin Oil Shale Impact Study, which estimates that 89-91% of the energy-related school costs will occur in Uintah School District with the remaining 9-11% in Duchesne School District.

committee and task forces. This experience reinforced the belief that this approach to planning works best when its scope is delimited to a district by district (rather than cross-jurisdictional) basis.

The steering committee assumed responsibility for recruiting and organizing citizen task forces to explore, in depth, the various problem areas which the Board, the Superintendent, and the committee collaboratively identified as priority areas for planning (see Figure 6). Figures 7 and 8 present the PERT outline developed by the steering committee to organize the work of the task forces and monitor the progress of the entire educational planning effort.

Six task forces were organized and supervised by the steering committee membership to examine how growth would affect the following areas of Uintah's K-12 educational program:

- o financing of schools
- o improved utilization of school facilities
- o recruitment and retention of staff
- o serving students with special needs
- o curriculum
- o public involvement

Identification and Mobilization of Resources: The identification and utilization of needed resources is a lengthy and time consuming process, and one which can easily lead to discouragement. Often there are formal and informal barriers to the "tapping" of unused or underused resources in the community. Many times these barriers are just a result of "the way we've always done things" which, translated means that "I do my thing and you do your thing" when it comes to getting agencies to work together. Having a number of community agency representatives serving on the steering committee, however, created a climate in which the resources of various groups could be

Figure 6

Community Based Education Planning

Organization Chart

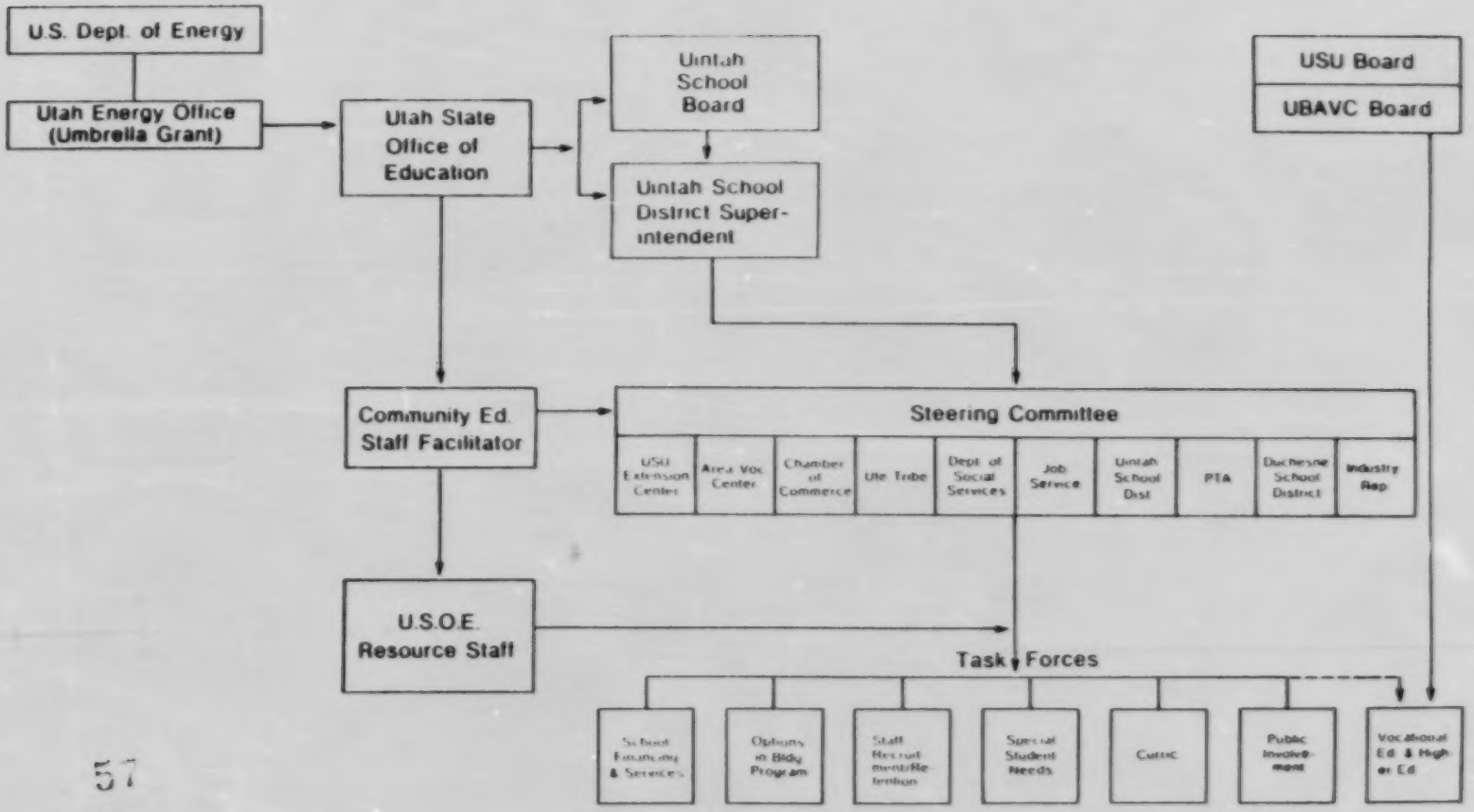
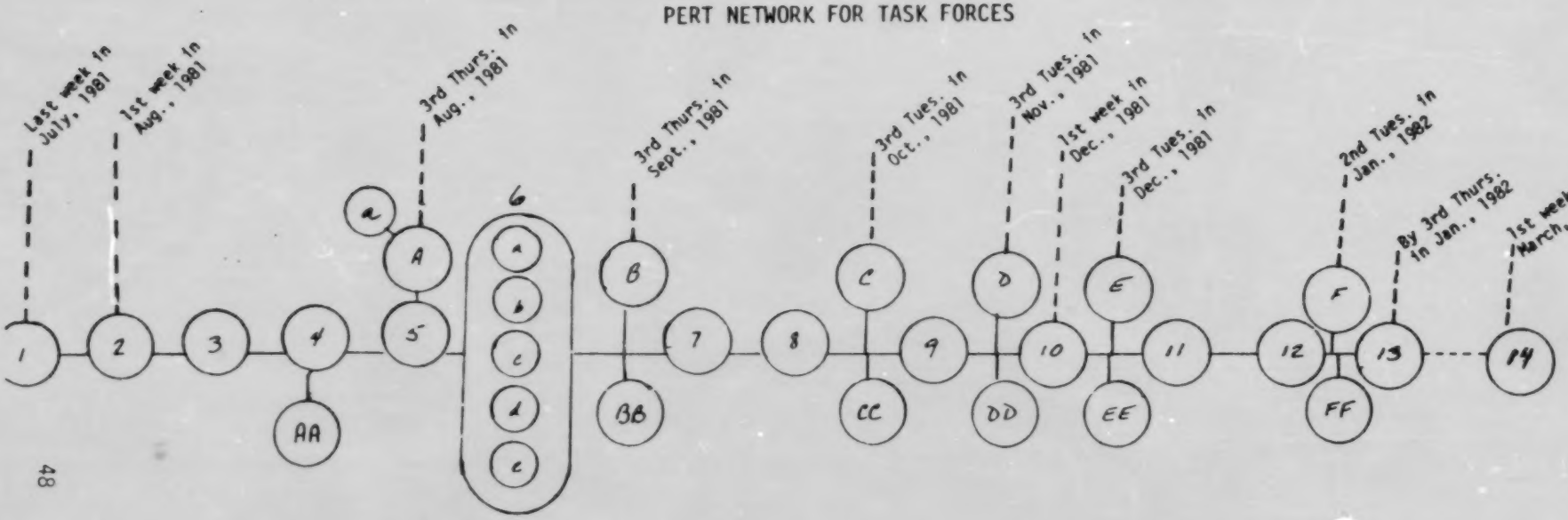


Figure 7

PERT NETWORK FOR TASK FORCES



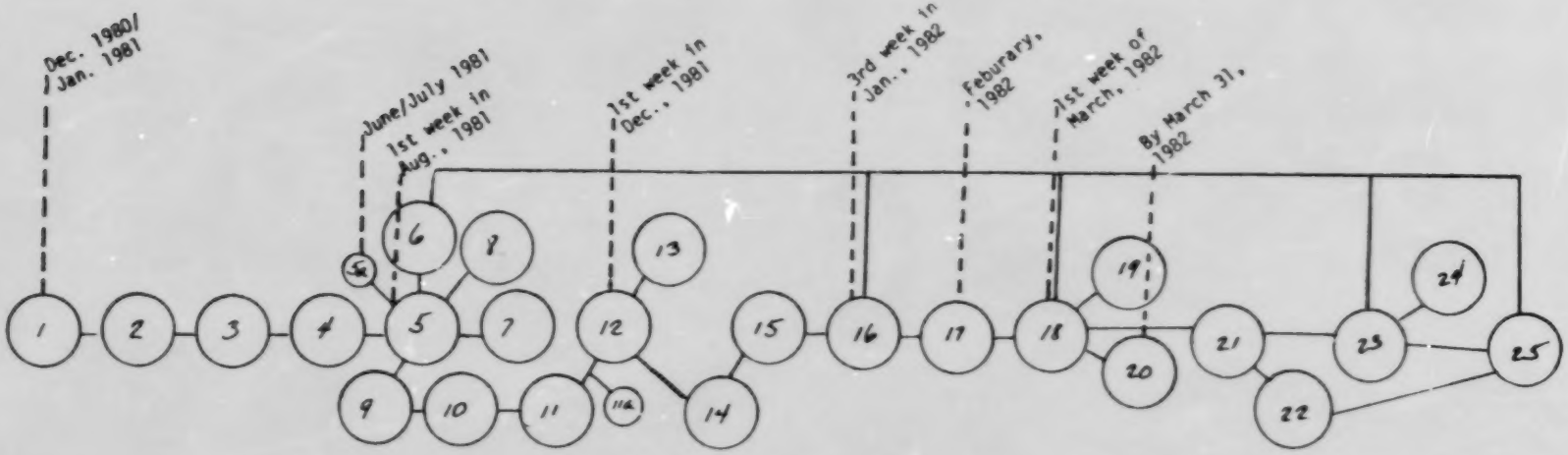
1. 1st meeting of task force chairpersons and Steering Committee.
2. 1st meeting of chairpersons with public interested in serving on task forces - Overview
3. Task force assesses own level of representation, recruits/adds members as needed.
4. Task force assesses own training needs, set up monthly training schedule.
5. Task force members begin review of materials/organization of work.
6. Task force gathers data
   a. Conduct additional research, literature review.
   b. Bring in consultants/take expert testimony.
   c. Brainstorm options.
   d. Visit other communities.
   e. Conduct interviews, surveys, etc.
   f. Other
7. Task forces explore alternatives/prepare criteria for selection of viable alternatives.
8. Task force prepares preliminary report on alternatives.
9. Task force and Steering Committee plan Community Forum - assignments made.
10. Community Forum
11. Task forces review input from Community Forum, incorporate into their work.
12. Task forces finalize recommendations for action/1st draft recommendations for implementation plan.
13. Submit final report to assigned Steering Committee representative or chairman.
14. Chairmen and interested task force members present at presentation to Local Board of Education.

A. 1st reporting meeting with Steering Committee - August
   a. Chairman maintains minutes of task force meetings, has weekly report with Steering Committee representative.
B. 2nd reporting meeting - September
C. 3rd reporting meeting - October
D. 4th reporting meeting - November (report on progress and assignments for community forum)
E. 5th reporting meeting (rebriefing community forum)
F. 6th reporting meeting with Steering Committee (all task force membership - Day session on a Saturday)

AA. 1st monthly training session
BB. 2nd monthly training session
CC. 3rd monthly training session
DD. 4th monthly training session
EE. 5th monthly training session
FF. 6th monthly training session

FIGURE 8

PERT NETWORK FOR UINTAH BASIN EDUCATIONAL PLANNING PROJECT



1. Organize Steering Committee.
   -Select representatives from appropriate agencies/groups.

2. Gather and analyze data available.
   -Project director to assemble information re: oil shale development and impacts on education (as experienced in other rapid-growth communities).

3. Develop goals and objectives for planning project.

4. Make presentation to School Boards, enlist Board support, Board/Supt. identifies priorities.

5. Recruit/organize task forces.

   a. Identify chairpersons

6. Develop Public Awareness Campaign/ help in recruiting/publicity

7. Steering Committee monitors progress of task forces. Meets at least monthly for reporting meeting with task force chairpersons.

8. Task forces assess their membership and training needs, set up schedule for training workshops (1 evening meeting per month).

9. Task forces begin work on problem definition/goal identification.

10. Task forces review data already gathered, gather additional information.

11. Task forces explore viable alternatives.
    -Set criteria.

    a. Task forces submit preliminary report - define program requirements.

12. Steering Committee/task forces sponsor community forum.

13. Steering Committee prepares evaluation of community forum.

14. Task forces review work and incorporate feedback from community forum.

15. Task forces finalize recommendations for action/1st draft recommendations for implementation plan.

16. Task forces submit final report.

17. Steering Committee compiles final report incorporating task forces' work.

18. Report presented to local Board of Education.

19. Report presented to State Board of Education.

20. Report sent to Energy Department.

21. With Board/Superintendent approval, Steering Committee develops implementation plan for district.

22. Steering Committee develops monitoring procedures to evaluate implementation of plan.

23. Board adopts plan.

24. Plan employed in negotiations with industry for mitigation assistance.

25. Steering Committee disbands/Board appoints advisory group to assist with implementation plan/generate support/review next steps in ongoing planning.

brought together to enhance the planning efforts. As an example, the Chamber of Commerce worked with the Chairman of the citizen's task force on school building utilization in order to bring to Vernal a consultant on year-round schools. As a result of this cooperative effort, the consultant was able to meet not only with educators and the task force membership, but was also able to explain the year-round program to the membership of the Chamber of Commerce. In addition, the local media were mobilized to inform the public about the specifics of the year-round school option.

While several other examples of increased utilization of community resources as a result of this educational planning effort could be cited, further work needs to be done on this area. Nevertheless, through the experience of working together as a steering committee and in task forces, the ground work has been laid for increasing the likelihood of future collaborative working relationships among the schools, community groups, agencies, and interested citizens.

Adoption of Systematic Planning Processes: Although reference has already been made to the PERT network which was developed to monitor project progress, it is important to note that a major responsibility of the USOE staff member working as the project facilitator was to assist the steering committee and task forces to adopt and follow a systematic approach to planning. In doing this, the facilitator spent considerable time working with the steering committee membership and the task force chairpersons to assist in developing an orderly process of problem definition, data collection, identification of priority needs, exploration and evaluation of options and development of recommendations.

Although the people ultimately responsible for implementing an orderly planning process (the task force chairpersons) were given considerable latitude in guiding their committees, their work was monitored by the USOE staff facilitator. This monitoring was accomplished through monthly reporting meetings of the chairpersons, the steering committee, and the facilitator. Visits to the task forces during their regularly scheduled meetings were also employed to assess firsthand the progress of the committees.

The USOE facilitator also assisted the task forces in the following data gathering efforts: (1) arranging fact-finding trips to other communities, (2) arranging conference calls with school district officials in other energy-impacted communities which could not be visited, (3) identifying content experts within USOE staff and providing staff consulting time, (4) developing (in conjunction with the task forces) a community survey which was administered to a representative group of Uintah county residents. The survey served to sample community sentiment on a number of educational issues, (5) working with other state agencies and industry to secure the latest data on workforce requirements, school age projections, etc., for task force use.

Beyond these efforts, the USOE staff facilitator is currently working with the Superintendent of the Uintah School District to develop a process for implementing the priority recommendations which have resulted from the work of the task forces.

Capacity Building at the Local Level: The process of public involvement in community based education planning is, simultaneously, a process of training and capacity-building at the local level. At the outset of the process it was decided that this approach would seek to address one of the greatest misconceptions about planning, which is that "planning" is something

to be done by "planners." "Planners," under this misconception, are defined as individuals who conduct studies and prepare technical treatises--often in language that is rather obscure to those not "in" on the jargon of "planners."

A key premise of community based education planning is that "planning" encompasses a series of tools which can assist in the design of a desired future. While the chief planners for society are, or should be, those elected by the people to serve as policy makers--e.g., school board members, city council members, county commissioners, legislators, etc.--"the people" generally should also be seen as planners, participating in a variety of planning processes and activities. However, a common barrier to mobilizing "the people" to participate in planning processes has to do with the fact that, as a rule, the educational system has rarely considered the lay citizenry as either interested or capable of getting involved in fact-finding and decision-making processes. In following the planning process outlined herein, the USOE staff rejected that kind of thinking, and therefore were committed to identifying the skills which project participants already possessed and in enhancing those through additional training experiences.

In actually implementing the commitment to capacity building and training, however, certain decisions were made which did not turn out to be as productive as had been anticipated. For example, the issue arose whether or not to require that all task force members undergo specific training in planning processes. Because of fears that making such a demand would alienate some of the lay volunteers, it was decided to provide training as needed (during the reporting meetings) to the task force chairpersons and allow them to proceed on their own expertise. As a result, the training sessions which had been identified in the PERT outline were not implemented.

To make up for this lack of structured training, however, the USOE staff member serving as project facilitator was available to provide additional training and assistance to chairpersons or entire task forces depending upon the level of felt need. While some chairpersons and task force groups made use of this training resource, fewer did than had been anticipated. However, even those task forces which proceeded essentially "on their own" generally reported that the experience of having to rely upon their own resources to sort and assess information and develop recommendations had been rewarding, and had provided them with an opportunity to practice and refine their planning skills. It is nevertheless recommended that future applications of this planning model incorporate a more structured training experience for all participants. In assessing the strengths and weaknesses of the process, it was the feeling of several evaluators that the absence of regular, integrated training experiences diminished what otherwise would have been opportunities to build and strengthen local (lay) planning capabilities.

While a major goal of the Community Based Education Planning process is to build local planning skills and capabilities, other "spin-off" benefits result as well. Participants in the process develop ownership of the issues they examine and commitment to the implementation of a program of action to address these issues. School districts then are able to count on community members as allies rather than antagonists. School officials are able to move away from "selling" the community on a bond issue for example, because the community doesn't need to be "sold"--they have been a part of the process which led to such a decision. All these "spin-off" benefits are also seen as capacity-building benefits because they serve to strengthen the identification and support which the community is willing to give to its school system.

Before this discussion on capacity building is brought to a close, however, it is important to note that although a community based approach to planning seeks to support and strengthen lay capabilities, this approach does not reject the contributions which can be made by professional planners. Those with job titles of "planner" should be able to contribute specialized assistance to the process, acting as facilitators, furnishing needed information, or providing technical assistance. Jointly, policy makers, their staffs, and the people they work for--the community--can take effective steps in taking charge of the future and creating the quality of life they all desire.

SECTION 5

K-12 IMPACTS AND PROPOSED ACTION

This section summarizes the principal impacts upon the K-12 educational system which could be expected as a result of oil shale development in the Uintah Basin. As was mentioned in an earlier section of this document, the focus site of this impact is expected to be Uintah County, Utah, and thus the bulk of the discussion will address the educational needs in that county. Nevertheless, some discussion of current and projected conditions in the two other school districts in the area is included below:

DAGGETT SCHOOL DISTRICT

According to population projections developed by the SPCO, the Daggett County School District should not be faced with an increase as a result of oil shale development (see Table 6). The figures given in that table under a "baseline" scenario are identical to the school enrollment projections for the "medium" and "high" oil shale development scenarios in the Basin.

TABLE 6

School Age Population Distribution/Baseline Scenario*
(APA Planning and Research and SPCO Projections)
DAGGETT COUNTY

Year	Combined Elementary Enrollment	High School
1981	124	76
1982	129	74
1983	135	74
1984	141	74
1985	134	76
1986	137	78
1987	139	80
1988	143	81
1989	145	83

*Same figures apply for Baseline + Medium and Baseline + High Oil Shale Scenarios

Using the SPCO - developed student enrollment projections, it is evident that building capacity will adequately meet projected growth, and that whatever growth occurs will not likely be attributable to oil shale development (see Table 7).

TABLE 7

Projected Student Enrollments vs. Building Capacity
Using SPCO School Age Projections

Daggett County

Projection	Capacity	Year				
		1981-82	1982-83	1983-84	1984-85	1985-85
Combined Elementary	350	124	129	135	141	134
High School	200	76	74	74	74	76

Because of some minor discrepancies between the SPCO projections and actual enrollment data, school age projections developed by USOE which incorporate data on actual, current enrollments were also used to examine existing building capacity vis a' vis expected demand. Table 8 summarizes these data through the 1985-86 school year. As can be observed, Daggett is operating well below building capacity in all its buildings, and projected growth can be adequately accommodated through the foreseeable future.

TABLE 8

Projected Student Enrollments vs. Building Capacity
Daggett School District

School	Enrollment Projections (actual) 1981-82	1982-83	1983-84	1984-85	1985-86	Capacity
Flaming Gorge Elementary	44	46	46	47	51	175
Manila Elementary	76	79	78	79	87	175
Combined Elementary Enrollments	120	125	124	126	138	325
High School Manila High	72	84	95	103	113	200
Total Combined Enrollments (Elementary and High School)	192	209	219	229	251	550

*Source - USOE

To summarize, the Daggett County School District does not appear to face any appreciable impacts as a result of oil shale development. While neither the SPCO nor the USOE figures reflect possible school enrollment growth as a result of conventional oil and natural gas development activity on the Wyoming side of the border, the school district could still accommodate a doubling of school enrollments without taxing building capacity to the limit.

DUCHESNE SCHOOL DISTRICT

School Projections and Related Building and Financing Plans: According to school enrollment projections developed by the SPCO, Duchesne School District can expect considerable variance in terms of energy-related

enrollment impacts on schools serving eastern and western Duchesne County. Eastern Duchesne, and particularly the schools serving Roosevelt City, should experience moderate energy-development impacts. These impacts amount to the needed addition of one large elementary school, a small junior high school, and part of one high school.[21] It is important to keep in mind, however, that these impacts are above and beyond demand for school facilities resulting from standard growth patterns in the district. One additional consideration may serve to aggravate the demand for a new high school in the Roosevelt area. Currently, Union High School (serving the Roosevelt area) also serves high school students from Western Uintah County. According to Superintendent Caldwell of the Duchesne School District, the Uintah School District would like to send its 9th graders to Union High School in order to ease enrollment pressures at West Junior High (in Uintah County). If those 9th graders are transferred to Union, the Duchesne District will also send its 9th graders in the Rossevelt area to Union High School, thus requiring the addition of at least 10 new classrooms plus additional gym and other facilities. Approximate cost of these additions would be $4 - 5 million. The two school districts are still negotiating on this issue so no definite action plan can be recommended at this time.

Energy-related school age impacts in western Duchesne County are projected to be light, and concentrated in the first few years of development. As a result, any enrollment expansion in the Duchesne City schools (because of energy impacts) could be accommodated through portable classrooms once building capacity is exceeded. Tables 9 and 10 summarize the data on projected impacts to schools in eastern Duchesne (Roosevelt) and

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[21] Construction project by APA planning and research, 1981.

Table 9

DUCHESNE SCHOOL DISTRICT
"MEDIUM" DEVELOPMENT SCENARIO - COMBINED CONSTRUCTION & OPERATIONS
SCHOOL AGE IMPACTS BY SELECTED YEARS--SCHOOLS IN DUCHESNE AND ROOSEVELT

	1983		1985		1987		1989		1991		1993	
School Age Breakdown	Duchesne City Schools	Roosevelt City Schools	Duchesne	Roosevelt	Duchesne	Roosevelt	Duchesne	Roosevelt	Duchesne	Roosevelt	Duchesne	Roosevelt
Elementary	86	249	93	329	11	424	12	515	14	545	20	664
Junior High	38	110	45	153	4	149	4	183	6	204	7	211
High School	34	97	37	134	5	175	4	172	4	166	5	187

SOURCE: SPCO - UPED Model

Table 10

DUCHESNE SCHOOL DISTRICT
"HIGH" DEVELOPMENT SCENARIO--COMBINED CONSTRUCITON & OPERATIONS
SCHOOL AGE IMPACTS BY SELECTED YEARS--SCHOOLS IN DUCHESNE AND ROOSEVELT

	1983-1986		1987		1989		1991		1993	
School Age Breakdown	Duchesne	Roosevelt	Duchesne	Roosevelt	Duchesne	Roosevelt	Duchesne	Roosevelt	Duchesne	Roosevelt
Elementary	Same as medium Scenario figures		11	417	12	510	15	641	20	673
Junior High	Same as medium Scenario figures		4	157	4	180	6	237	7	244
High School	Same as medium Scenario figures		5	171	4	172	5	193	5	200

western Duchesne (Duchesne City) County under "medium" and "high" development conditions.

Costs associated with these projected school age impacts include capital outlays for buildings (see Table 11), maintenance and operation costs (see Table 12) and transportation costs (between 13 and 15 -- 84 passenger buses at an approximate cost of $48-50 thousand per bus). These projected transportation costs are in addition to standard bus purchases to cover baseline growth and replacement (the USOE recommends replacement of school buses over 10 years old).

According to Superintendent Caldwell,[22] the district has a current bonding capacity of $24.5 million. The district, however, has no plans to bond for additional facilities. The present building program for the district includes completion of a K-12 school in Tabiona, currently under construction and due "on line" by December, 1982. In addition, the district is planning the construction of a 20-station elementary school in Roosevelt, with a projected completion date of Fall, 1984. The district owns several parcels of land near Roosevelt which it is trying to trade for suitable land (in town) to accommodate the new elementary school. The third building priority for the district has to do with additions to Union High School (as a result of the issue presented earlier). None of these capital outlays are planned to be met through additional bonding. The district, however, is awaiting a determination of the availability of the oil shale lease royalties (for tracts Ua and Ub) to submit a grant request to help fund some of these capital expenditures.

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[22] Personal communications, April 7, 1982

Table 11

DUCHESNE SCHOOL DISTRICT

ESTIMATED SCHOOL CONSTRUCTION NEEDS, 1981-1995

	Elementary			Junior High			Senior High			Total--All Grade Levels		
	Baseline	Energy Impact	Total	Baseline	Energy Impact	Total	Baseline	Energy Impact	Total	Baseline	Energy Impact	Total
Growth by 1995, beyond 1980 Estimated Capacity (No. Students)	518	618-795	1,136-1,313	591	28-96	619-687	331	61-122	392-453	1,440	707-1,013	2,147-2,453
Additional Buildings Required	1	1	2	1	--	1	0-1	--	0-1	2-3	1-2	3-4
Estimated Construction Cost[2] (1980 Dollars)	$2,014,000 2,362,000	$2,403,000 3,625,000	$4,417,000 5,987,000	$3,546,000 4,078,000	$168,000 662,000	$3,714,000 4,740,000	$2,880,000 2,362,000	$531,000 1,200,000	$3,411,000 4,457,000	$8,411,000 9,697,000	$3,120,000 5,487,000	$11,542,000 15,184,000

[1]Based on approximately 550 students per elementary school; 600-1200 per junior high; 700-1200 per senior high school.

[2]Includes construction and equipment costs; does not include land or financing costs. Based on 1980 cost per square foot, average square footage per student

SOURCE: APA Planning and Research, as derived from UPED school age population projections and Uintah and Duchesne School District cost assumptions.

Table 12

ESTIMATED SCHOOL OPERATING AND MAINTENANCE COSTS*
(Thousands of Dollars)

Duchesne School District

Year	Baseline**	Impact	Total
1981	$ 7,133	$ 386	$ 7,519
1982	7,275	755	8,030
1983	7,467	1,211	8,678
1984	7,733	1,416	9,149
1985	8,408	1,339	9,747
1986	8,782	975	9,757
1987	9,149	930	10,079
		1,016	10,165
1988	9,419	1,066	10,485
		1,234	10,643
1989	9,725	780	10,505
		1,159	10,884
1990	10,237	533	10,770
		1,066	11,303
1991	10,422	734	11,156
		1,475	11,897
1992	10,520	833	11,353
		1,411	11,931
1993	10,532	970	11,502
		1,401	11,933
1994	10,466	1,364	11,830
		1,848	12,314
1995	10,498	1,317	11,815
		1,887	12,385
TOTAL		$14,609	$152,375
	$137,766	$18,579	$156,345

*All Figures are 1980 dollars

**Includes O & M costs associated with both current enrollment and future baseline growth

SOURCE: APA Planning and Research, derived from information furnished by the Utah State Planning Coordinators Office and Uintah and Duchesne School Districts

UINTAH SCHOOL DISTRICT

School Projections and Related Building and Financing Plans: According to the school enrollments projections developed by the SPCO, the Uintah County School District will be the most severly impacted district in the Basin Area as a result of oil shale development. Nevertheless, there is significant variance in the degree of impact between eastern and western Uintah County, with the greatest amount of growth in the Vernal-Ashley Valley area of eastern Uintah County (see Tables 13 and 14).

District wide projections for building construction developed by APA Planning and Research indicate that the impacts of oil shale development would result in the need for six to eight new elementary schools, one junior high school, and approximately one senior high school. These projected impacts do not include baseline growth which would escalate requirements as follows: eight to nine elementary schools; two to four junior high schools; one to two senior high schools. Additionally these projections do not take into account the possibility of a district shift towards a school configuration which would include a middle school concept. Under consideration by district officials is the proposal to shift the elementary school composition to a K-5 program, the addition of a middle school for 6th and 7th graders, junior high school for 8th and 9th graders and high school for grades 10-12. While there are sound educational and developmental reasons to justify such a shift, it would increase the capital expenditures for separate middle school facilities. On the other hand, such expenditures may be offset by increased capacity at the elementary and junior high levels as a result of the removal of 6th and 7th graders into separate facilities.

While the impacts of oil shale development on western Uintah County are not expected to be major, they will contribute towards a further aggravation

Table 13

UINTAH SCHOOL DISTRICT
"MEDIUM" DEVELOPMENT SCENARIO - COMBINED CONSTRUCTION & OPERATIONS
SCHOOL AGE IMPACTS BY SELECTED YEARS--EASTERN AND WESTERN UINTAH COUNTY

School Age Breakdown	1983		1985		1987		1989		1991		1993	
	Eastern Uintah Ashley Valley	Western Uintah Uintah-Ouray	Eastern Ashley Valley	Western Uintah-Ouray	Eastern Ashley Valley	Western Uintah-Ouray	Eastern Ashley Valley	Western Uintah-Ouray	Eastern Ashley Valley	Western Uintah-Ouray	Eastern Ashley Valley	Western Uintah-Ouray
Elementary	688	43	1005	47	1813	86	2370	102	1967	98	2441	119
Junior High	301	19	458	22	632	32	843	37	742	37	877	43
High School	1256	17	420	19	748	36	800	34	611	30	715	35

SOURCE: SPCO - UPED Model

Table 14

UINTAH SCHOOL DISTRICT
"HIGH" DEVELOPMENT SCENARIO--COMBINED CONSTRUCTION & OPERATIONS
SCHOOL AGE IMPACTS BY SELECTED YEARS--EASTERN AND WESTERN UINTAH COUNTY

School Age Breakdown	1987		1989		1991		1993	
	Ashley Valley	Uintah-Ouray	Ashley Valley	Uintah-Ouray	Ashley Valley	Uintah-Ouray	Ashley Valley	Uintah-Ouray
Elementary	1934	85	2916	101	2708	107	2871	118
Junior High	731	32	1037	36	1010	40	1042	44
High School	794	36	989	32	828	33	858	35

of current overcrowded conditions in the schools on the west side. Some of that overcrowding at the elementary level should be reduced as a result of the new 18 station elementary school (capacity: 600) currently being built in the LaPoint area (western Uintah County) with a completion date of December, 1983. This school, along with a comparable one also under construction in the Naples-Davis section of Ashley Valley, should create some relief at the elementary level through 1984-85 at which point provision for additional elementary school facilities will need to be made.

No bonding was required to finance the LaPoint and Davis elementary schools. Construction and outfitting costs were allocated from $3 million in prepaid taxes from Deseret Generation and Transmission, and approximately $2.5 million from the districts' anticipated revenues for capital expenditures. Construction of these two elementary schools, however, has encumbered the district capital funds for buildings for the next three years.

Critical building shortages also exist at the secondary level in Uintah County. For example, capacity of the Vernal Junior High School is 874, while the building currently houses 1,003 students. Capacity at West Junior High is 234 with current enrollment at 300. Uintah High School has a capacity of 747, while currently housing 825.[23]

In order to meet the demand at the secondary level through 1990, the district has requested $16.5 million from the Community Impact Board to cover the costs of building and outfitting a new 1500 student high school. These funds presumably would come from the oil shale lease royalties paid by White River Shale Project. In their proposal to the Community Impact Board, if a new high school could be underwritten as a result of a mitigation grant, the

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[23]Capacity and enrollment figures provided by Dr. Robert Vincent, planner for Uintah School District, in private communication, April 16, 1982.

district would then utilize the existing high school as a junior high (for grades 8-9) and Vernal Junior High School would become a middle school (grades 6-7).

The district currently has no bonding indebtedness, with an allowable bonding capacity of $21,186,880. While the district is preparing to submit a new bonding proposal to the voters in Fall, 1982, none of those funds would be allocated to the proposed high school. Current building priorities, therefore, are as follows:[24]

First, a new 1500 student high school in the Ashley Valley area to be financed through impact mitigation grants. Second, elementary schools in Ashley and Jensen. Third, an additional middle school in Ashley or Naples. These latter two priorities are projected to be financed through bonding and other mechanisms (such as additional mitigation grants from industry).

Costs associated with these projected school age impacts include capital outlays for buildings (see Table 15), maintenance and operation costs (see Table 16), and transportation costs (approximately 35-40, 84 passenger buses at a cost of $50 thousand per bus). These projected transportation costs do not include standard bus purchases to cover baseline growth and standard bus replacement.

Results of the Community Based Education Planning Project: The planning process adopted in Uintah county has already been described in an earlier section. This section now summarizes the areas of research and the recommendations resulting from the work of the six task forces organized by the steering committee under the leadership of the Uintah School Board and Superintendent Phillip Ellis. The Community Based Education Planning Project

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[24] Source: Dr. Robert Vincent, Uintah School District Planner, Private communication, April 16, 1982.

Table 15

UINTAH SCHOOL DISTRICT

ESTIMATED SCHOOL CONSTRUCTION NEEDS, 1981-1995

	Elementary			Junior High			Senior High			Total--All Grade Levels		
	Baseline	Energy Impact	Total	Baseline	Energy Impact	Total	Baseline	Energy Impact	Total	Baseline	Energy Impact	Total
Growth by 1995, beyond 1980 Estimated Capacity (No. Students)	736	3623-4152	4359-4888	636	1406-1610	2042-2246	375	1126-1307	1501-1682	1747	6155-7069	7902-8816
Additional Buildings Required	1-2	7-8	8-9	1	1-3	2-4	0-1	1-2	1-2	2-4	8-13	11-15
Estimated Construction Cost[2] (1980 Dollars)	$2,862,000	$14,086,000	$16,948,000	$3,816,000	$8,436,000	$12,252,000	$3,262,000	$9,796,000	$13,058,000	$9,940,000	$32,318,000	$42,258,000
	$3,356,000	$18,933,000	$22,289,000	$4,388,000	$11,109,000	$15,497,000	3,690,000	12,861,000	16,551,000	11,434,000	42,903,000	54,337,000

[1]Based on approximately 550 students per elementary school; 600-1200 per junior high; 700-1200 per senior high school.

[2]Includes construction and equipment costs; does not include land or financing costs. Based on 1980 cost per square foot, average square footage per student

SOURCE: APA Planning and Research, as derived from UPED school age population projections and Uintah and Duchesne School District cost assumptions.

Table 16

ESTIMATED SCHOOL OPERATING AND MAINTENANCE COSTS*
(Thousands of Dollars)

Uintah School Disrict

Year	Baseline**	Impact	Total
1981	$ 8,031	266	8,297
1982	8,228	989	9,217
1983	8,497	2,132	10,629
1984	8,876	2,706	11,582
1985	9,050	3,359	12,409
1986	9,425	4,817	14,242
1987	9,819	5,982	15,801
		6,207	16,026
1988	10,152	7,787	17,939
		8,280	18,432
1989	10,441	7,556	18,007
		8,644	19,085
1990	10,374	6,730	17,104
		8,040	18,170
1991	10,517	6,528	17,045
		8,170	17,045
1992	10,594	6,880	17,474
		8,181	18,775
1993	10,603	7,742	18,345
		8,748	19,351
1994	10,551	8,557	19,108
		9,692	20,243
1995	10,271	9,405	19,676
		10,802	21,073
		$81,446	$226,875
TOTAL	$145,429	$91,033	$236,462

*All Figures are 1980 dollars

**Includes O & M costs associated with both current enrollment and future baseline growth

SOURCE: APA Planning and Research, derived from information furnished by the Utah State Planning Coordinators Office and Uintah and Duchesne School Districts

involved the direct participation of nearly 100 community members in task forces, committees, etc. over an eight month period. In addition, another 400 community members provided input to the process by answering written questionnaires, participating in telephone surveys, etc.

Finally, over 500 people attended hearings and board-organized "work meetings" to examine the top 5 priority recommendations from each task force. When one considers that Uintah County has a current population of 22,100 residents, (1981 figure from SPCO) the 1,000 county residents who directly participated in the process represents involvement of nearly 5% of the county's population. In addition to this figure, it is conservatively estimated that hundreds of other county residents were informed about the process through direct mail-outs, and through the local media (radio and newspapers).

The membership of the task forces (and the steering committee) included people from a wide spectrum of the community possessing a variety of educational and work experience, social and cultural diversity, and geographic representation. Collectively, the work of these task forces represent thousands of man hours dedicated to (1) assessing current district standing in a number of areas, (2) defining desirable educational futures for Uintah county residents in light of the problems and opportunities resulting from energy-related growth, and (3) developing recommendations to make those desirable educational futures a reality.

The following are brief descriptions of the areas of responsibility assigned to each task force along with the major recommendations which resulted from their work. Some modifications and refinements were made to those recommendations during the Board-sponsored work meetings involving task

force members, principals, teachers, PTA council presidents, and representatives of other interested groups. These modifications or additions have also been included in the list of recommendations by task force area. Those recommendations marked with asterisks represent the top priorities identified as a result of the work meetings and public hearings; and were officially adopted by the Uintah Board of Education in March, 1982.

Task Force on School Financing:

In general, problems associated with rapid growth will not be solved satisfactorily without adequate finances. As a result, this task force was asked to assess the educational costs associated with rapid growth and make recommendations for financing the requirements for buildings, personnel, materials, and other needs. This committee was asked to review and make recommendations on the following areas: (1) bonding, (2) voted leeway, (3) prepayment of taxes by industry, (4) grants and gifts.

Recommendations made by the Task Force on Finance

1. Energy companies will need to increase funding levels to mitigate the effects of rapid growth resulting from their developments.
2. The school district and energy companies need to have regular contacts to exchange information and data concerning the numbers of industry personnel and their dependents which may be moving in or out of the district.

*3. The district needs to set, as a top priority, the development of funding formulas which will accurately represent the direct and indirect costs attributed to each industrial development. These funding formulas need to serve as the basis for negotiation with industry for costs associated with maintenance and operation as well as building construction.

*4. A voted leeway should be undertaken to provide funds for maintenance and operation costs of the district (e.g., salaries, materials and supplies, utilities, etc.).

*5. A bond election should be undertaken to provide needed capital expenses (e.g., buildings, buses, etc.).

*6. The district should prepare grant proposals to the Community Impact Board, Industry, and/or other sources to use oil shale lease money and royalties to help fund the construction and operation of new schools.

7. Since a portion of industry's financial assistance to the district is in the form of prepaid taxes, funding formulas need to consider and compensate for the impact of reduced tax revenues in future years.

8. School district funding needs should be included in an overall community planning process involving other governmental entities and subdivisions.

Task Force on Utilization of Facilities:

Probably the most obvious need when rapid increases in student enrollments occur is the need for classrooms and other educational facilities. This task force was asked to review alternatives concerning the most efficient use of school facilities consistent with the provision of quality education. Included among the alternatives to be considered were: (1) year-round schools, (2) double sessions, (3) utilization of other community facilities, (4) utilization of flexible (modular) buildings, (5) transportation requirements.

Recommendations made by the Task Force on Utilization of Facilities

*1. The school needs to adopt (as soon as possible) a year-round school program to reduce class size and increase building utilization.

2. Under a year-round program, different elementary schools would handle different grades. As an example, one elementary school would handle K-3

while another handled grades 4-6. This organization would maintain present training in subjects and would encourage good peer adjustment.

*3. It is recommended that if more immediate measures are needed that the district implement double sessions for an interim period.

4. If double sessions are adopted temporarily, grades K-4 should remain as presently scheduled (these grades should not be included in double sessions).

5. If double sessions are adopted temporarily, grades 5-6 should be scheduled at the Junior High School (morning session) with grades 7-8 at the Junior High School (afternoon session).

6. If double sessions are adopted temporarily, grade 9 should move to the high school, with grade 9-10 attending mornings, and grades 11-12 attending afternoons.

*7. The district should adopt a standardized basic design for all new school building construction to maximize efficiencies in building construction and maintenance.

8. New buildings need to be constructed in such a way that they can be "added on" with a minimum of additional cost or inconvenience.

*9. All new construction needs to be evaluated for energy efficiency including possible use of solar capabilities in heating and cooling.

*10. The district should investigate the potential advantages and disadvantages in using private carriers to handle district busing.

11. Student participation in interscholastic events should be scheduled so as to permit the consolidation of transportation requests.

Task Force on Curriculum:

In areas with rapid growth and high turnover, the educational system needs to quickly assess the educational level of the incoming students in

order to provide a meaningful learning experience for the student. Additionally, the kind and quality of educational curriculum already in place needs to be assessed to determine if it is really meeting student needs.

This task force was asked to fill two major functions: (a) an evaluation of options for handling potential curriculum problems as the district faced rapid growth, and (b) an assessment of the direction which the district should take in the area of curriculum in the next 8-10 years. Among the specific areas assigned to this committee to review were: (1) computer assisted instruction (2) individualized education plans, (3) performance based instruction, (4) coordination with other educational agencies, (5) vocational programs, (6) community resources to enrich curriculum.

Recommendations made by the Task Force on Curriculum:

1. Each new student needs to be pre-assessed in every subject within the first week of entering the public school system.
2. Placement of students should be based upon their performance on the pre-assessment measure.
3. The provision of special services (such as special education, programs for the gifted, bilingual education, etc.) will need to be substantially increased to meet the increasing demands of the new "move-ins."

*4. A yearly ad hoc committee on curriculum including representation by the public needs to be organized by the district to provide input on curriculum changes (e.g., time changes, subject matter changes, textbook adoption, etc.)

5. If the district adopts year round schooling, double sessions, or some other non-traditional approach, a committee involving representatives of the public will need to be organized to set curriculum priorities.

*6. Subject matter needs to be correlated in all schools and at all grade levels. As an example, the same reading program ought to be used in all schools and all grade levels.

7. The junior high school needs to offer more vocational courses.

8. The junior high school needs to offer more academic courses.

9. The school district needs to hire qualified school counselors so that, at a minimum, the state recommended minimum of 1 counselor for each 300 students is maintained district-wide.

*10. The district needs to involve all teachers in a regular in-service program to increase their understanding and skills in dealing with special problems created by rapid growth.

11. The senior high school needs to offer more vocational courses.

12. The senior high school needs to offer more academic courses.

*13. If the District Board decides to stay with a 9-month school program, remedial summer school programs should be set up to allow students to "catch up" with grade-level work.

*14. The school district needs to implement special course offerings for gifted students.

*15. Implement district-wide the "Fourth R" program.[25]

*16. Maintain and increase academic expectations.

Task Force on Special Student Needs:

This committee was asked to identify concerns affecting students whose needs may not be met by the regular school experience. Rapid growth can have

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[25]The "Fourth R" Program is a discipline program developed by the Modesto School system, (Modesto, CA). The "R" stands for "Responsibility" and it consists of a highly structured program of student conduct codes, sanctions, and remediation procedures for students who behave inappropriately.

a particular and often detrimental impact on these students. Ten areas were identified for work by this task force. They were: (1) special education, (2) physically handicapped, (3) students with severe behavioral problems, (4) dropouts, (5) special problems of transient students, (6) drug and alcohol abuse problems, (7) unwed mothers, (8) child abuse and neglect, (9) programs for the gifted and talented, (10) provision of services to Ute Tribe members.

Recommendations made by the Task Force on Special Student Needs

1. The district needs to assess the legal requirements of confidentiality in making teachers aware of information concerning handicapped students.
2. The studentbody of the district should receive special training designed to build awareness of, and tolerance for limitations faced by handicapped students.
3. The physical accessibility of all school facilities need to be reviewed to insure compliance with federal law.
4. Students identified as having severe behavioral problems need to be placed in more structured classrooms with lower teacher/student ratios until the problem behavior can be remedied.

*5. Additional school counselors/social workers are needed to provide family counseling and individual group therapy to students demonstrating severe behavioral problems.

*6. Extensive in-service training needs to be provided to school personnel in the following areas:

   a. Limitations of students with physical handicaps
   b. Handling behavior problems in the classroom
   c. Handling stresses in the classroom

7. The school district needs to continue their support and hiring of new aides and teaching staff to maintain reasonable student/teacher ratio among special education students.

8. The district needs to increase the pay for aides who must be especially trained to work effectively at the Learning Center.

9. The district needs to increase support staff for the Learning Center (e.g., nurse, speech therapist, occupational therapist, social worker.)

10. Counselors must be available in all schools, especially the junior and high school, on a regular full-time basis. Their main purpose would be to assist the student, his/her family and the teachers in maintaining acceptable performance in the school.

11. The district needs to allocate resources in a way that helps limit class size so that teachers and materials are available to students. Large classes affect the special needs student probably more than any other factor because the student gets lost either academically or socially.

*12. The district needs to implement the use of "Explorations in Living" in the high school. This is a program that helps students learn social skills necessary to make responsible and mature decisions when they are living independently.

13. The district needs to continue to support and expand vocational classes offered at the high school.

14. It is recommended that a vocational training center be included in the proposed new high school.

15. Transportation must be provided from Uintah High to the area vocational center in Roosevelt. Without transportation access, this valuable resource is limited to high school students who can provide their own transportation.

*16. The district needs to continue to support and expand the alternative high school and other programs as viable resources for students who are unable or unmotivated to have success in the regular school program.

17. The district needs to work cooperatively with local businesses to promote, encourage, and expand work release programs at the high school level.

18. The current resource programs need continuing support and expansion as the number of students increase who need individualized instruction.

19. The district needs to encourage early graduation for motivated students by providing flexibility in the application of graduation requirements.

20. A task force from the community needs to be organized to study the problem of drop-outs and design a program of prevention and early detection of potential drop-outs in the school district.

21. Appropriate staff support needs to be provided to free secretarial and counselor time for requesting school records from other areas of the country, evaluating them, and scheduling appropriate classes for incoming students.

22. The school district should plan activities for the school and the classroom to help integrate new students into the school district and the Uintah Basin.

23. A yearly educational program should be presented to all school personnel by Social Services on the indicators of child abuse, child neglect and sexual abuse.

24. Local PTA's should work with Social Services to present programs to the parents on child abuse, neglect, and sexual abuse. Once approved, these programs can then be presented to students, especially in the elementary

schools. The focus of these programs would be prevention and would help identify resources that can help the children if they find themselves in an abusive situation.

25. Parenting classes must be provided on a regular basis. These can be offered through the individual schools, the local PTA's, the Division of Mental Health or the community education program.

26. Human development courses need to be offered beginning in the junior high. This class should be offered in classes separating boys and girls (like a PE class) where there is good rapport with the teacher so that open discussion can occur and questions can be answered.

27. Classes on life skills (such as communication skills, values clarification, etc.) need to be included in an expanded curriculum for the Young Mother's program.

28. Increased leisure activities for the youth in the Basin must be planned and developed.

29. Volunteers are needed in many areas of the school, but time, energy and good organization by effective leaders is required first. The school district and PTA need to provide leadership in expanding the core of volunteers.

30. The use of programs such as "Welcome Wagon" is encouraged. These programs are ideal for publicizing local and state resources for new community members.

31. A coalition of community resources including the schools, Social Services, the police, Juvenile Court, local governments and businesses need to be involved in the development and expansion of preventive programs for community problems (such as child abuse, delinquency, etc.)

32. The district needs to organize Community groups to study and suggest programs to prevent problems impacting education.

Task Force on Recruitment and Retention of Quality Staff:

Obtaining and retaining quality educational staff has been found to be a major problem in other communities which have faced rapid growth. As a result, this task force was asked to examine and recommend alternatives for insuring that the school district is able to recruit and retain quality staff. Included for consideration in this assignment were: (1) issues of staff morale, (2) voted leeway and compensation issues, (3) factors affecting recruitment, (4) industrial support for additional staffing, (5) utilization of industrial staff in schools, (6) teacher burnout.

Recommendations made by the Task Force on Staff Retention and Recruitment:

1. The district needs to set up a committee including teachers, administrators, and the public to develop screening criteria to evaluate teacher skills.
2. Teachers should be evaluated on a regular basis. Teachers scoring above the norm on the criteria should receive salary increases.
3. Teachers scoring below the norm should receive additional training and if after a reasonable period of time they have not improved, they should be dismissed.
4. Teacher salaries (currently 5th lowest in the state) should be on the top five in the state in three years; should be number one in the state within ten years in order to attract and retain quality staff.
5. The district should set up a voluntary apprentice program to assist new, incoming teachers with additional training in teaching skill and discipline concerns.

6. In order to reduce the amount of non-instructional time spent by teachers, it is recommended that whenever possible, "paperwork" demands upon the teacher be reduced or eliminated. If necessary, volunteers, classified, or other non-instructional personnel should handle the paperwork.
7. There needs to be a more balanced allocation of funds between academic and athletic programs.
8. User fees and gate receipts should be raised to help defray some of the costs of athletic programs.
9. District personnel need to organize their workload so as to balance the time spent on district and state office responsibilities with time spent in the schools providing direct service to instructional personnel.
*10. The district should institute a regular program of staff recognition and "awards of merit" for outstanding achievement and years of service in order to increase staff morale.
*11. Promote and pass a voted leeway to increase teacher salaries.
*12. Educate the public to become a pro-education community.
*13. Implement a pre-teacher education class at the high school.
*14. Provide scholarships to prospective teachers.
*15. Develop ways to provide economical facilities for new teachers.

Task Force on Public Involvement:

A key concern of the Board and the school district was to expand ways in which the public can be actively involved in the educational system. Working cooperatively, the schools and the community can improve educational quality and accountability. This task force was asked to examine the following areas and make recommendations which would increase public involvement in the

schools: (1) recruitment and effective use of volunteers, (2) how to provide information to patrons, (3) utilization of community resources in the schools, (4) expanding the use of school resources by the community, (5) on-going public involvement for effective educational decision-making.

Recommendations made by the Task Force on Public Involvement:

*1. The PTA organization in the district needs to be strengthened through additional leadership training.

*2. Encourage patron representation and participation in Board meetings by:

   a. Preparing Board agendas so that items of general public interest are dealt with early in the meeting.

   b. Print Board agendas in the local newspaper prior to the meeting to familiarize patrons with items to be covered.

   c. Providing Board agendas to news department of the local radio stations prior to the meetings.

3. a. News conferences should be held by the Board and/or the Superintendent whenever events or information of major importance justify it.

   b. District newsletters need to be attractively prepared and distributed on a regular basis to county residents.

4. In-service sessions for teachers and staff on the topic of public involvement need to be made a regular part of opening Institute presentations.

*5. The Board should continue the use of citizen ad hoc committees to assist the Board in studying special problems, and should create a district coordinated community council.

*6. A volunteer coordinator needs to be selected from the district staff to develop a specific district policy on the use of volunteers in the schools.

7. The policy on volunteers should be developed in coordination with representatives of building level administrators, teachers, and the general public.

8. Each school should set up a special registration process for new students. In conjunction with this special registration, each school should sponsor a reception and general orientation session for newcomers and their families.

9. The PTA should set up a program of "School Information Centers" in each neighborhood. PTA volunteers in each neighborhood would contact and welcome new community residents and provide them with a packet of information regarding the schools.

*10. Encourage increased involvement by new patrons and students.

SECTION 6

OTHER EDUCATIONAL IMPACTS

Although the principal focus of this planning effort has been to assess and address the impacts to the K-12 system, there is more to a community's educational system than simply the public schools. The provisions of educational opportunities throughout the the individual's life span is or should be, a community concern. As a result, this section addresses some issues, problems and opportunities relating to other educational components in the Uintah Basin. An effort has been made to briefly outline current service levels, and some issues concerning how these sectors may be affected by energy-related growth.

PRE-SCHOOLS:

Currently, there are eight pre-schools operating in the Uintah Basin, four each in Duchesne and Uintah counties. In addition, there are two Head-start programs operating in Uintah county.[26] Although no information is available on the total student enrollment in these two programs, it is likely that increasing population in the Basin will stimulate additional demand for early childhood education services.

Baseline projections developed by the SPCO for early childhood population (age 0-4) in the Basin suggest that normal growth patterns for the area will continue to require at least a modest increase in the level of pre-school services through 1988 with some tapering effect in demand by 1990 (see Table 17). When projected population impacts from energy-related

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[26] Information provided by D. Gale, Supervisor, Dept. of Social Services District VI, Vernal, in private communication, April 14, 1982

activities are added, (see Tables 18 and 19 for "Medium" and "High" development impacts in the 0-4 age level) there is a clear indication of need for additional preschool services.

Borrowing from the experience of other energy-impacted communities, it seems reasonable to expect that increased demand for compensatory education services in the K-12 program might also reflect the need for additional special assistance programs such as Headstart at the pre-school level.

TABLE 17
BASELINE PROJECTIONS FOR PRE-SCHOOL POPULATIONS
FOR SELECTED YEARS
UINTAH AND DUCHESNE COUNTIES

YEAR	DUCHESNE	UINTAH
1982	2257	3507
1984	2595	4053
1986	2716	3977
1988	2722	4094
1990	2608	4106
1995	2278	3640

Source: SPCO

TABLE 18
MEDIUM DEVELOPMENT FOR PRE-SCHOOL POPULATIONS
FOR SELECTED YEARS
UINTAH AND DUCHESNE COUNTIES

YEAR	DUCHESNE	UINTAH
1982	269	430
1984	580	1269
1986	510	2006
1988	789	3601
1990	714	3306
1995	817	3500

Source: SPCO

TABLE 19
HIGH DEVELOPMENT FOR PRE-SCHOOL POPULATIONS
FOR SELECTED YEARS
UINTAH AND DUCHESNE COUNTIES

YEAR	DUCHESNE	UINTAH
1988	772	3958
1990	751	4096
1995	914	4317

POST-SECONDARY TRAINING:

Substantial numbers of post-secondary age individuals (18-29) are expected to move to the Uintah Basin as a result of the projected energy development activities. Figures 9 and 10 present the population projections for this age group. Even if only a portion of this population were to seek training or other educational opportunities, these figures suggest that significant demand could be placed upon the vocational and higher education delivery systems in the Basin.

Vocational Education: The continuing influx of energy activity in the Uintah Basin will bring with it attendant demands for the provision of skilled workers to staff the requirements of industry. If the Uintah Basin is to reap the greatest economic benefit possible from the proliferation of jobs in the mining manufacturing and service industries resulting from oil shale development, then training opportunities need to be provided which will result in Basin residents securing and retaining newly available jobs. Since a substantial percentage of the projected jobs require some degree of vocational training, it is imperative that the Uintah Basin Area Vocational Center (UBAVC) in cooperation with industry, trade unions, and the public school system, prepare itself to meet this increased demand. Documenting the

Figure 9

VERNAL-ASHLEY VALLEY

Medium Energy Development Scenario
School Population Impact
Post Secondary Population Ages 18-29

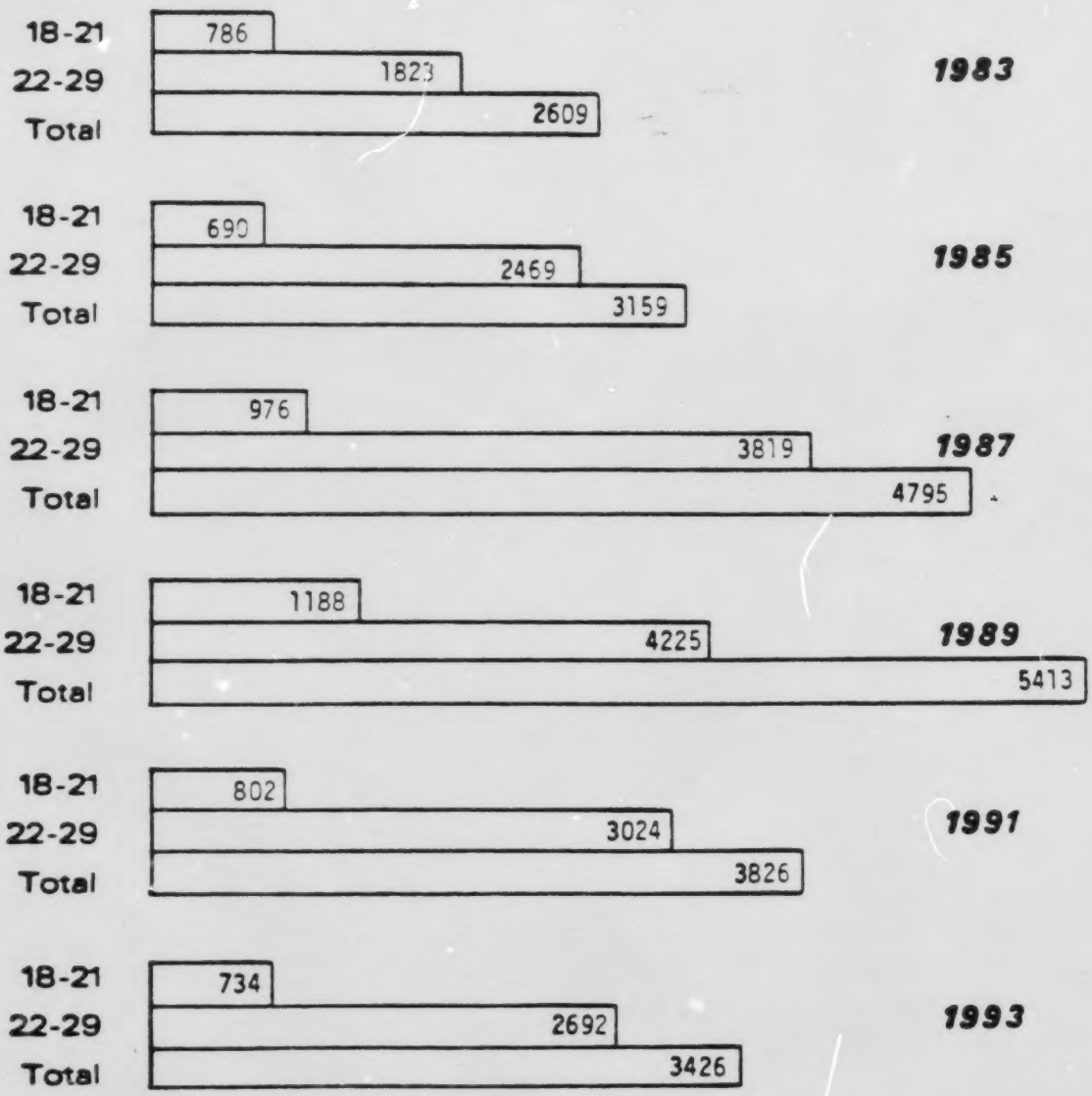
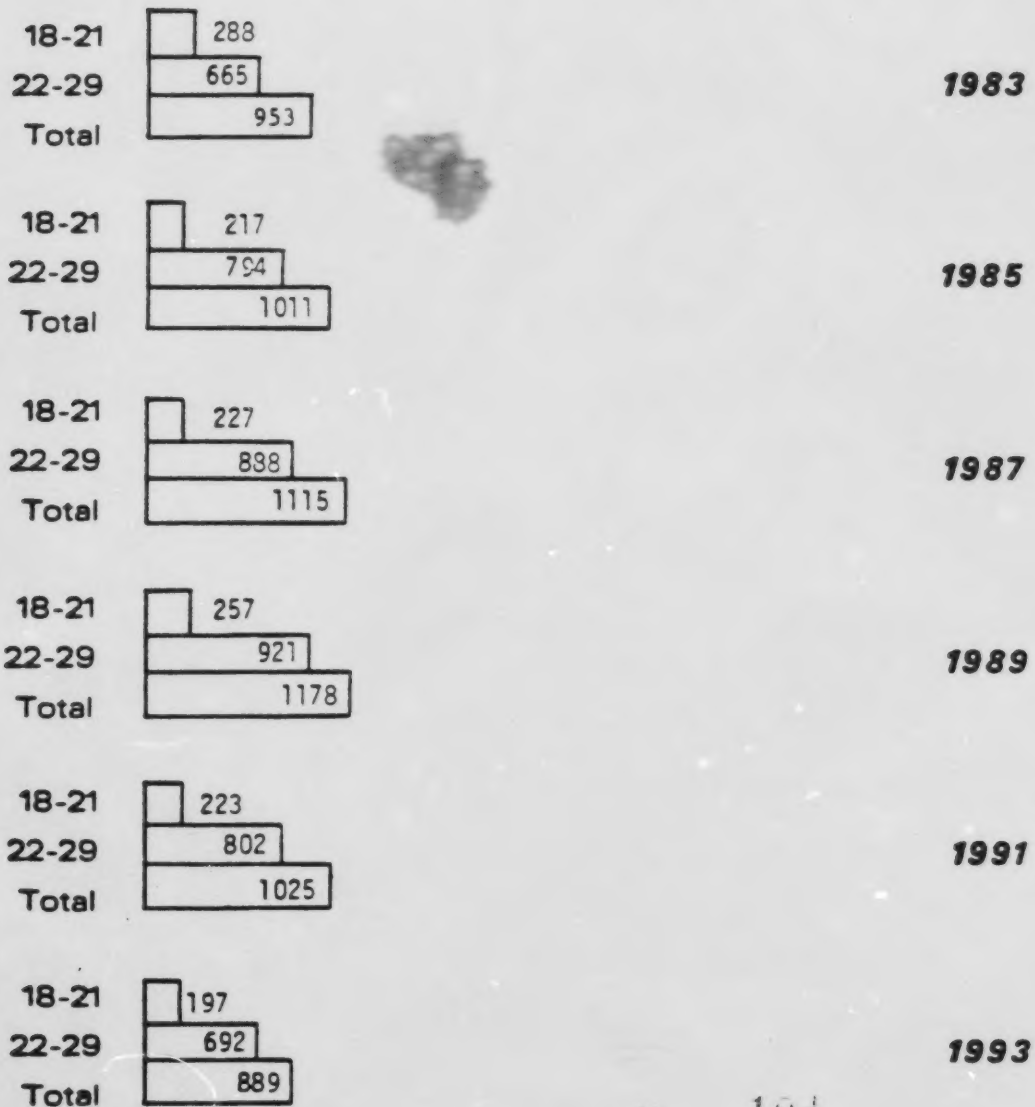


Figure 10

ROOSEVELT

Medium Energy Development Scenario
School Population Impact
Post Secondary Population Ages 18-29



need for expanded vocational opportunities in the Uintah Basin, a poll (commissioned by APA Planning and Research) was conducted by Wasatch Opinion Research in November, 1980. The following is taken from a report[27] which summarized the findings of the poll:

- Following high school, 67% of those responding planned to leave the area for additional education or training. Only 20% planned to stay in the area.

- After obtaining any post-high school training they planned to obtain, 61% of the seniors said they would be likely or very likely to remain in or return to the Uintah Basin.

- Asked about their interest in a variety of different jobs following completion of their education, male students showed greatest interest in technical and skilled trades, such as construction (62%), mechanic (54%), electrician (48%), engineering (44%), and welding (42%). Significantly, mining (12%) received less interest from male students than any occupations polled except for secretarial work and waitressing. Among females, greatest interest was in secretarial work (55%), other administrative office work (53%), and store clerking. Lowest interest among females was in mining (0) and welding (2%).

- Some three-fourths of the students (76%) planned on some type of formal schooling beyond high school. This included 22% planning to attend a technical school and 55% planning on college.

Table 20 presents the current offerings available through the Uintah Basin Area Vocational Center.

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[27] Taken from: Impact of Energy Development on Vocational and Technical Education in the Uintah Basin, Uintah Basin Area Vocational Center, December, 1981

TABLE 20

CERTIFICATES OF COMPLETION OFFERED THROUGH
THE UINTAH BASIN AREA VOCATIONAL CENTER

Area of Study	Certificate Offered
Allied Health:	
Emergency Medical Technician	State Certificate Emergency Med. Tech.
Licensed Practical Nurse	One-year Certificate of Completion
Nurses Aide Program	Certificate of Completion
Prenatal Workshops	Red Cross Card
Business:	
Accounting Clerk	One-year Certificate of Proficiency
Administrative Secretary	Two-year certificate of Proficiency
Automotive Service Station Manager	One-year Certificate of Proficiency
Bookkeeper	One-year Certificate
Business Manager	Two-year Certificate of Proficiency
Clerk, General	One-year Certificate of Proficiency
Clerk, Typist	One-year Certificate of Proficiency
Fashion Merchandise & Interior Designer	One-year Certificate of Proficiency
Marketing and Sales Manager	One-year Certificate of Proficiency
Real Estate	One-year Certificate of Proficiency
Receptionist	One-year Certificate of Proficiency
Secretary	One-year Certificate of Proficiency
Trades and Industry:	
Antique Custom Riflesmith	Certificate of Proficiency
Automobile Mechanic	Two-year Certificate of Proficiency
Automotive Specialist	Certificate of Proficiency
Automotive Salesperson	One-year Certificate of Proficiency
Cabinet Millwork	One-year Certificate of Proficiency
Carpentry	Two-year Certificate of Proficiency
Mason, Bricklayer	Certificate of Proficiency
Diesel and Heavy Duty Mechanic	Two-year Certificate of Proficiency
Farm Equipment Repair	Certificate of Proficiency
Architectural Drafting	One-year Certificate of Proficiency
Mechanical Drafting	One-year Certificate of Proficiency
Leather Work	One-year Certificate of Proficiency
Saddlemaking	One-year Certificate of Proficiency
Shoe Repair	One-year Certificate of Proficiency
Materials Handler	Certificate of Proficiency
Motorcycle Repair	Certificate of Proficiency
Outboard Motors & Small Engine Repair	One-year Certificate of Proficiency
Welder, Industrial	Two-year Certificate of Proficiency
Welding Specialist	Certificate of Proficiency
Welder, Gas	One-year Certificate of Proficiency

Because of the need for an indepth exploration of what the expected energy industry demand could mean to operation of the vocational center, the UBAVC was selected as an independent oil shale grantee to examine the specific impacts of energy development upon the vocational education system in the Basin. While such an award effectively removed the vocational education area from the scope of this educational planning process, significant collaborative efforts were undertaken between the two education grantees.

At every appropriate occasion information of relevance to each of the planning projects (USOE and UBAVC) was freely exchanged. Furthermore, the director of the vocational center served as a member of the steering committee and acted as liaison to one of the task forces organized by the committee. In addition, the UBAVC and USOE co-funded trips which were undertaken to other energy-impacted communities in Wyoming and Colorado.

The UBAVC project was completed in December, 1981 and a plan was developed which has already been forwarded to the Utah Energy Office. Appendix C presents the summary and conclusions sections of that document, along with the UBAVC identified Ten-Year Expansion Plan to meet the expected industry demands in the Basin Area. It is felt that these proposals, if fully implemented, will facilitate the provision of a skilled workforce and increase the likelihood that Basin residents will derive maximum benefits from the projected economic growth.

Higher Education: In the preceding discussion on the energy-development impacts upon vocational education, reference was made to the Wasatch Opinion Survey conducted with 110 randomly selected high school seniors in the Uintah Basin. Of the respondents, 55% planned to attend college, and a majority of respondents planned to leave the area for their post secondary training. Judging from the poll responses it seems reasonable to conclude that an

expansion of higher education offerings in the Basin would likely result in more students opting to meet their commitment to additional (higher) training while being able to remain "at home" (and in the meantime contribute to the local economy). Table 21 presents information on the degrees offered through Utah State Extension Center. However, communication with a faculty member of the center[28] revealed that while all the degree opportunities identified in Table 21 can be pursued at the center only the Bachelor and Masters degrees in Elementary Education, Secondary Education, and Early Childhood Education can be fully earned at the center[29]. The remaining degree offerings presently require that at least some portion of the program of study be taken at the Utah State University campus in Logan, Utah.

In the near future it is projected that the center will expand its course offerings in the areas of Business, Family Life, and Science and Engineering. There are no specific projections to expand course offerings to meet specific industrial demands.

Staffing: Currently the center is staffed by three full time faculty, along with a rotating sequence of commuting professors from the Logan campus. While expansion of the course offerings is projected (as described above), no specific information is available on staffing increases at the center. Even with limited staffing capabilities, however, the center has shown consistent and marked increases on the FTE load over the past decade (see Table 22).

Based upon a field survey conducted under the direction of the steering committee, additional increases can be expected in the coming decade (see Appendix D).

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[28] Dave Medlyn, private communication, March, 1982

[29] The Center can also provide all the course work required for the administrative and supervisory endorsements needed to work in the Utah public education system. These endorsements, however, are not specifically a part of a regular, degree-seeking program.

TABLE 21

DEGREES OFFERED THROUGH THE UINTAH BASIN
UTAH STATE UNIVERSITY EXTENSION CENTER

Bachelors Degrees

Accounting
Animal Science
Art
Biology
Business Administration
Chemistry
Dairy Science
Distributive Education
Elementary Education
English
Family and Human Development
Forestry
General Education
Health, Physical Ed. Recreation
Instructional Media
Mathematics
Music
Office Administration
Outdoor Recreation
Psychology
Secondary Education
Social Work
Sociology
Special Education
Theater Arts
Wildlife Science

Master of Arts Degrees

Art
Elementary Education
Psychology
Secondary Education
Special Education
Sociology
Business Administration
Business Education
Communications

TABLE 22

FTE LOADS REPORTED BY USU EXTENSION CENTER
ROOSEVELT, UTAH
Selected Years

	ACADEMIC YEAR			
	1971-72	1974-75	1977-78	1980-81
FTE LOAD	239.8	249	674	762

As part of this project, the steering committee organized a task force on Higher Education to examine the data generated by the field survey (as well as other data) and make recommendations to the committee and the Board of Education. The following are the recommendations generated by that task force.

Recommendations made by the Task Force on Higher/Vocational Education

1. Current Vocational and Higher Educational Programs in the Basin need to be continued.
2. The State Board of Education in coordination with the Board of Regents and the local Board of Education in the Uintah Basin should appoint a broadly based task force to study specific future needs in the areas of Vocational and Higher Education for the Basin.
3. The Utah State University Education Extension Center should be expanded to include permanent administrative and classroom facilities.[30]
4. The Uintah Basin Area Vocational Center should be expanded to provide facilities in the Vernal area.

[30] Currently USU utilizes classrooms at Uintah High School to conduct classes in the Vernal area

5. Close coordination needs to be developed between the school districts, industry, and administrators of higher and vocational education center in order to formulate curriculum, and develop facilities and staff which will be responsive to the employment demands in the Basin.

SECTION 7

SUMMARY OF DIRECTIONS AND PROJECT EVALUATION

At the beginning of this report the findings of a study by Mico and associates were summarized. Data from that study suggested criteria which identified studies and plans which are least likely to be implemented following their development. In the hope that such would not be the fate of this planning effort, the individuals who were involved in conceiving, developing, and implementing this project sought to create a process which would result in the optimum likelihood of implementation. Anything short of that goal would make a mockery of the thousands of volunteer and paid staff hours which were devoted to the project, and would lend credibility to those who are skeptical of the value of extensive community input in the planning process.

Working "backwards" from Mico's criteria for unimplemented studies, it was decided that if a process could be created which did the opposite of what had been identified, that is a process which did involve the public, did identify priorities, and did result in a plan of action, the chances for having project outcomes which were of value would be greatly enhanced. Consequently, the Community Based Education Planning process which was employed was one which created extensive public involvement, while at the same time made use of the planning, facilitating, training and organizing skills of professionals from the USOE staff and other local and state level agencies and groups. Thus the process addressed the first of Mico's criteria. The recommendations which were generated received the benefit of further analysis by Board members, professional educators, and interested

citizens. Their review and input served to clarify the priority areas for action and met the intent of the second criterion. The final criterion, the need to develop specific implementation plans for each of the priority areas, is now in its beginning stages. This final step is really the most crucial in making the outcome of this planning project into something other than a "dust-gathering" study.

In recognition of this fact, the Uintah District Superintendent is preparing to submit to his Board a proposal for the establishment of a permanent district citizen's advisory council. This council will receive a charge to develop specific implementation plans in order to make the recommendations generated by the study phase of this project a reality. In addition to this primary charge, it is expected that the council will also be called upon to examine other problem areas as they may arise. Finally, it is hoped that the council will provide an on-going mechanism for citizen input to the district and the Board.

By taking action to create the council, the Board will also be implementing one of the priority recommendations by the public involvement task force. (Appendix E presents a preliminary description of the purpose, function and operation of the proposed council as it is currently envisioned).

Without waiting for the development of the advisory council, however, the district has already begun plans to implement some of the priority recommendations generated by the planning process. Specifically, this coming November (1982) the district will seek approval from the voters on a bond proposal and a voted leeway as recommended by the finance task force and the task force on staff recruitment and retention. Another recommendation from the finance task force (to prepare grant proposals to fund new school

construction) is already being implemented under Board direction with the submission of a funding request for the new high school to the Community Impact Board.

Concerning the recommendations from the building options task force, the Board has asked the district to prepare a plan for implementation of year-round schools as soon as enrollment growth allows the provision of comprehensive curriculum offerings at the high school on a year-round basis. It is expected that, given the projected growth, the district could be (enrollment-wise) in a position to fully implement a K-12 year-round program in the next year or two. In the interim, the Board accepted the recommendation of the building options task force to adopt a double session program as needed. Consequently, beginning Fall, 1982, Vernal Junior High School is scheduled to go on double sessions.

Salary negotiations were also influenced by the recommendations of the Task Force on Staff Retention and Recruitment. It is expected that the settlement which was recently reached with the teachers' association will place Uintah District teacher salaries among the top five in the state for the coming year.

The recommendation of the curriculum task force, to implement the "Fourth R" (discipline) program is currently under study by a group of district educators for possible implementation. This and other recommendations will be reviewed further, and action plans developed in order that priority areas can be addressed as expeditiously as possible.

WHAT WENT WRONG, WHAT WENT RIGHT, AND WHAT HAVE WE LEARNED?

Any evaluation of the outcome of a planning project includes a subjective, as well as an objective component. From an objective standpoint,

a great deal of educationally significant data was generated as a consequence of the project, and priorities for action were identified. As described in the immediately preceding section, there are clear indications from the Board and the Superintendent that certain actions have already resulted from the project, and more are expected in the next few months. These "objective" o58utcomes, in themselves, more than justify the value of the project. Nevertheless, it is from the subjective assessment of the process that even more important outcomes may result. Specifically, the opportunity to test a model of citizen participation in an educational planning process, and learn from the mistakes which were incurred, broadens the value of the study beyond the confines of the public education system in the Uintah Basin.

Some of the things which went wrong (districts withdrawing from the process, a haphazard training program, etc.) have already been discussed, while other issues still should be addressed. Among those issues are:

- The need for careful selection of personnel to chair the various committees, task forces, etc.
- The need to insure greater accountability from those involved.
- The need to keep stable leadership during the process.
- The need to convince educators that the public belongs in the educational planning process.
- The need to more effectively involve educators in the process.
- The need to train participants to keep a "big picture" orientation rather than special issue concerns.

These need areas are more extensively discussed below. It is important to emphasize that the discussion which follows is a distillation of the perceptions of eight individuals who participated in the process (e.g. steering committee members, task force chairpersons, district liaison, USOE staff, etc.). While none of the respondents (as expected) evaluated the

process in exactly the same way, the same issues tended to reoccur in their assessments of the project and the learnings which were derived from it.

Selection of personnel: Among the most critical decisions in any community organization process is the decision of how to go about identifying and selecting appropriate lay leadership. One of the realities of the process is that, often, the same core group of people tend to be the ones involved in most community projects. Consequently, those individuals, although interested, are generally already over-committed and can only devote limited time to the project because of conflicting demands.

Typically, the tendency is to rely on these few very active community members to also assume leadership positions in the community based education planning effort (e.g. as a task force chairperson). After all, these individuals have well recognized leadership skills and are respected by policy makers because of their on-going contributions to community life. As expected, it was to this pool of recognized leaders that the Superintendent and Board of Education turned in appointing the Task Force leadership. The predictable outcome was that while most of the chairpersons made every effort to devote the needed time to the project, many of them reported feeling themselves to be under excessive stress and pressure as they tried to meet their commitments to this and other projects. The majority of chairpersons managed, nevertheless, to do an outstanding job in spite of these pressures. In a couple of instances, however, the chairpersons were not able to meet all their competing demands and had to withdraw from the project because of lack of time.

As a result of this experience it is recommended that in staffing leadership positions in a community based planning process, every effort be made to identify and employ willing and strongly committed individuals who might be less actively involved in a variety of community projects.

Occasionally this may mean that in appointing leadership, the more "obvious" and skilled candidates may be by-passed in favor of other individuals who may have less experience but who have the time and commitment to make the process work.

This approach makes sense on at least two counts: First, the less experienced (but committed) leader is more likely to be receptive to participating in training opportunities than the more recognized leader. The inexperienced leader is likely to experience some anxiety at his or her capability to manage a major assignment. That anxiety, however, may be the motivating force behind seeking, and benefiting from, training in leadership and in specific planning skills. Second, it has already been mentioned that a principal tenet of the community based planning approach is the building and strengthening of local skills and capabilities. By selecting less experienced leaders (and providing them with training and technical assistance through the process) the district expands the pool of lay leadership it can call upon in the future.

One of the most gratifying outcomes of the planning process was the realization that there is a large number of citizens who truly want to get involved (in meaningful ways) in their community's educational system. Districts, therefore, need to make a deliberate effort at extending leadership opportunities to those interested residents who have the time and the desire to make a contribution.

Accountability: The process, as it was developed, had built within it numerous opportunities for monitoring the progress of the project. After careful review of the management tracking system which was employed, it was the consensus of the evaluators that while the systems and procedures to

insure accountability were in place, something else should have been done in order to insure greater accountability. In spite of this felt need for additional monitoring, the evaluators were unable to reach consensus on just what else needed to be done. It was generally agreed that the few lapses in follow-through which were experienced could be explained by the problem of over-extended leadership discussed earlier, and as such it was hoped that in future applications of the model, the selection of leaders who are able and willing to make the required time commitment will also help resolve this problem.

Nevertheless, a cautionary note appears to be in order. It is useful to remember that "accountability" can be a two-edged sword. While it is clear that procedures need to be instituted and maintained to provide for careful monitoring of progress, excessive demands upon formal feedback procedures may be perceived as stifling and may create a morale problem (e.g. "we spend so much time filling out progress reports or attending reporting meetings that we can't get our work done"). A proper balance needs to be struck between the need to monitor and the need to provide sufficient freedom to allow a group's creativity and inner direction to surface.

Stable Leadership: Throughout the 15 month course of the project, some significant changes in leadership took place which at times threatened to undermine the continuity of the work. Among the leadership changes which threatened (to one extent or another) the continuity of the project were: (1) the withdrawal of the Duchesne school district representation from the steering committee, (2) a change in steering committee chairmanship as a result of a change in the first chairman's work assignment, (3) a change in Superintendents in the Uintah district, (4) the withdrawal of other steering

committee members, (5) changes in Task Force leadership and the resulting need to select new Chairs, and (6) the rapid phase out of the USOE facilitator at the end of the project period with the concommitant assumption of a greater role by Uintah district personnel. All these changes obviously had an impact, and may account in large measure for the concerns over accountability which were previously discussed. Frequent leadership changes likely made it difficult for Task Force members to know to whom they were supposed to report.

In spite of all these potential crisis points, the project survived--a testimony to the commitment of all those who remained with the process throughout the various upheavals. Although these kinds of changes are obviously not recommended, this project demonstrated that such changes can occur without destroying the process.

Convincing Educators: Unfortunately, many educators, when presented with an explanation of this approach to planning, tend to respond with skepticism about the legitimacy of the public's involvement in issues within their "professional purview". Some of this sentiment was manifested during the opening institute when the USOE facilitator made a number of presentations to faculty and staff on the nature and scope of the planning project. Although negative comments were limited to a few individuals, nevertheless this attitude may in part account for the low levels of participation by educators in the planning process.

Several project evaluators commented on the fact that at least some district teachers and administrators conveyed the feeling that the project would not really result in anything of consequence and therefore did not merit their involvement. When, (near the end of the project) these

individuals realized that the Board and the Superintendent would act upon the recommendations generated, many of them loudly complained about the options they were being offered, and about the fact that they had not been included in the process. Unfortunately, these protestations were heeded by policy makers and, as a result, the implementation of certain task force recommendations was postponed (giving some support to their critical belief that the process was inconsequential).

A "learning" derived from this experience is that in order to maintain the credibility of the process and keep faith with the people who do participate, it is advisable that such last minute protest not be given quite as much power to influence final decisions. While clearly the Board and Superintendent need to have a strong commitment to attend to the concerns of their faculty members and administrators, they need to provide incentives so that those concerns can be raised and addressed as part of the planning process, rather than afterwards.

Involving educators:

The relatively low levels of educator participation in the planning process has already been mentioned, but the possible reasons for this merit additional scrutiny. While it is possible that some negativism towards lay involvement in educational planning may have been present, at least one alternative explanation exists, which may account for the low participation rate. Since by design the project was geared to soliciting community, rather than educator, input insufficient attention may have been given to securing educator involvement in the process. Although teachers and administrators were invited (at the time of the opening institute) to serve in the various task forces, no other recruitment efforts were specifically directed at this population.

Typically, most educational planning is almost exclusively limited to educator input. In order to remedy what had been perceived as an inadequate level of lay participation in past planning efforts, the recruitment efforts in this project were aimed at the community. It may be that in trying to compensate for past imbalances, a similar error was committed in not paying sufficient attention to the need for professional involvement. Obviously, imbalances at either end (excluding educators or excluding the public) will fail to produce the best kind of planning effort.

The experience gained from this project suggests that facilitators seeking to implement this kind of process in their districts need to develop effective working relationships with the teachers association and with building-level administrators in order to build a true partnership among all members of the education family (i.e., students, educators, lay citizens, etc.). Additionally, building a solid working relationship with teachers and administrators will facilitate the provision of professional input by those whose time commitments may not otherwise permit more direct participation.

The Big Picture: The saying "where you stand depends on where you sit" speaks to the issue that people's perspectives and responses to problems are often strongly influenced by their identification with a group, a title or a position. Consequently, in implementing a community based planning process, it is important to recruit participants who can effectively represent a variety of special issue concerns, so that adequate consideration can be given to all perspectives. Nevertheless, it is essential that process participants also be challenged to "step out" of their roles and take a "holistic" view of what the process means to the entire system, rather than the effects of an issue on a narrow sector of the system. There will be

times when the challenge to broaden the field of vision will be difficult to implement; however, it is essential that training and group maintenance efforts be made to reinforce and validate the need for a "big picture" perspective.

ADVANTAGES OF THE COMMUNITY EDUCATION BASED PLANNING PROCESS

The preceding comments should not be interpreted to mean that the process was not seen as valuable by the project evaluators. On the contrary, all those who participated in the evaluation of the project felt that significant benefits were derived from the process, and that similar processes ought to become a permanent element of the districts' approach to educational planning. In addition to the "objective" benefits which have already been discussed, two specific advantages stand out among the "subjective" benefits derived from this approach to educational planning. These are:

- o The Board of Education had a "success experience" in involving patrons. As a result, they received community support for some difficult decisions which they were called upon to make.
- o There was enhancement of the community's identification with the public education system.

These two points are summarized and briefly discussed below:

The Boards' Experience: The members of the Uintah Board of Education, acting within their legal mandate as policy makers, were recently faced with the necessity to make what could have been some very unpopular decisions (e.g., adoption of a double sessions program at Vernal Junior High School; the decision to prepare bonding and voted leeway proposals, etc.). Following the announcement of their decisions on these and other difficult issues,

Board members were pleasantly surprised by how few negative responses were received from the public. In fact, community members stood up in Board meeting and complemented the Board on the fairness of the process and the decisions which resulted from the process. This level of community acceptance has been, historically, the exception rather than the rule in Uintah county and as such was especially appreciated by the Board and the Superintendent.

The Community's Experience: As a result of the community based education planning project, an unprecedented number of community residents had the opportunity to directly examine and provide input on a variety of critical issues confronting the Uintah educational system. Since people tend to be "down on" things they're not "up on", a process which succeeded in involving that many people also served to strengthen the community's "ownership" of its educational system and its problems and opportunities.

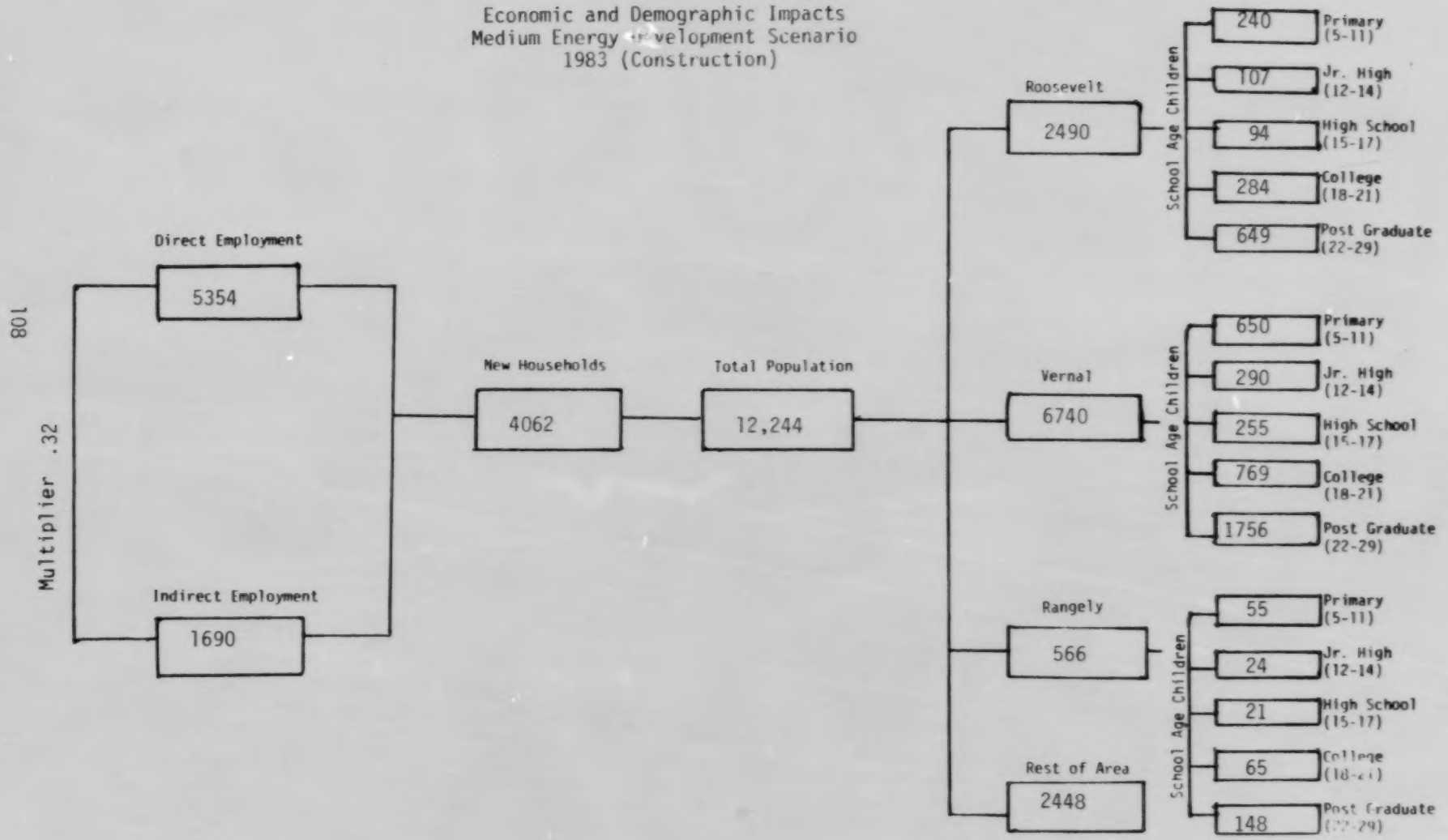
Although additional work still needs to be done to strengthen the partnership between the home, the school, and the community on a host of educational issues, the process has proven its utility in addressing education-related concerns in this rapid-growth community. The process is obviously often difficult and time consuming, and it certainly isn't a panacea for all problems; nevertheless, evidence of its value continues to build based upon the outcomes which have already taken place--a stronger identification between the schools and the community as joint partners working to forge a future from which everyone can benefit.

APPENDIX A

MEDIUM ENERGY DEVELOPMENT SCENARIOS

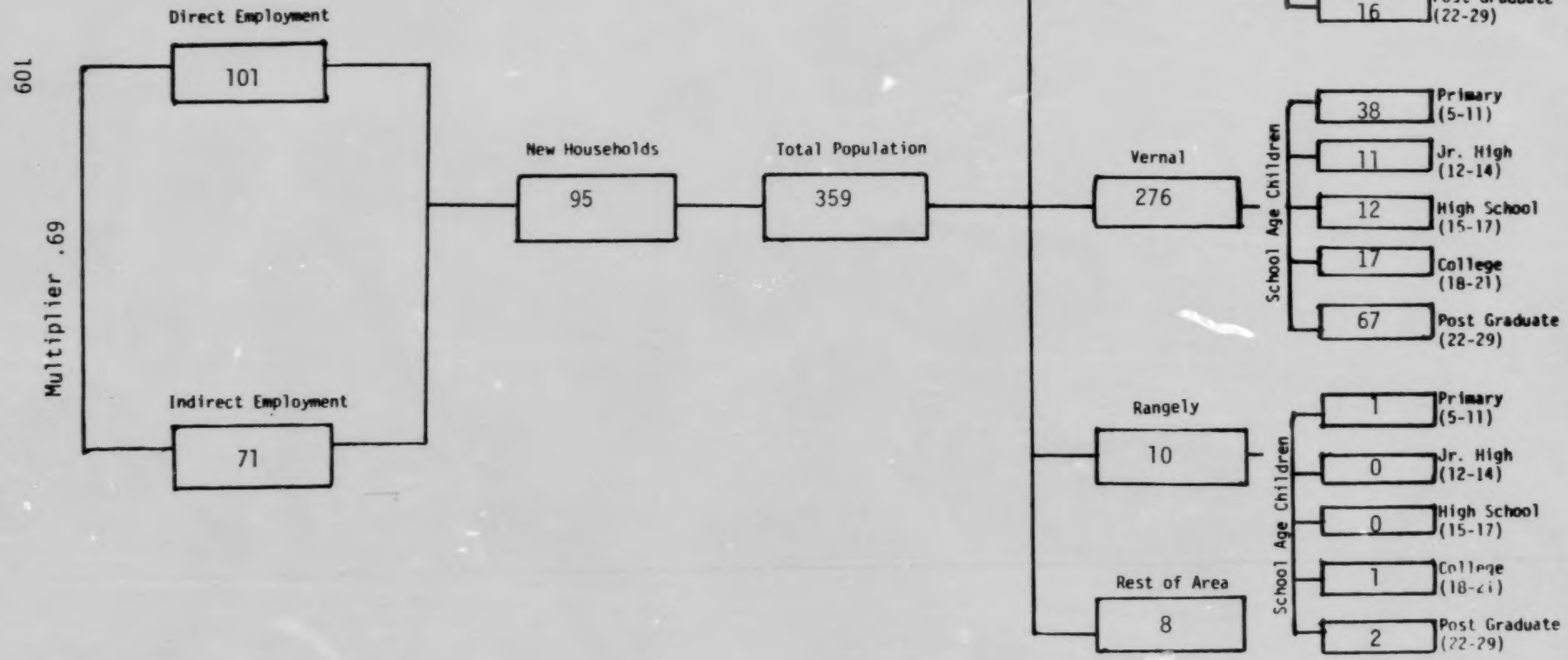
UINTAH BASIN MCD

Economic and Demographic Impacts
Medium Energy Development Scenario
1983 (Construction)



UINTAH BASIN MCD

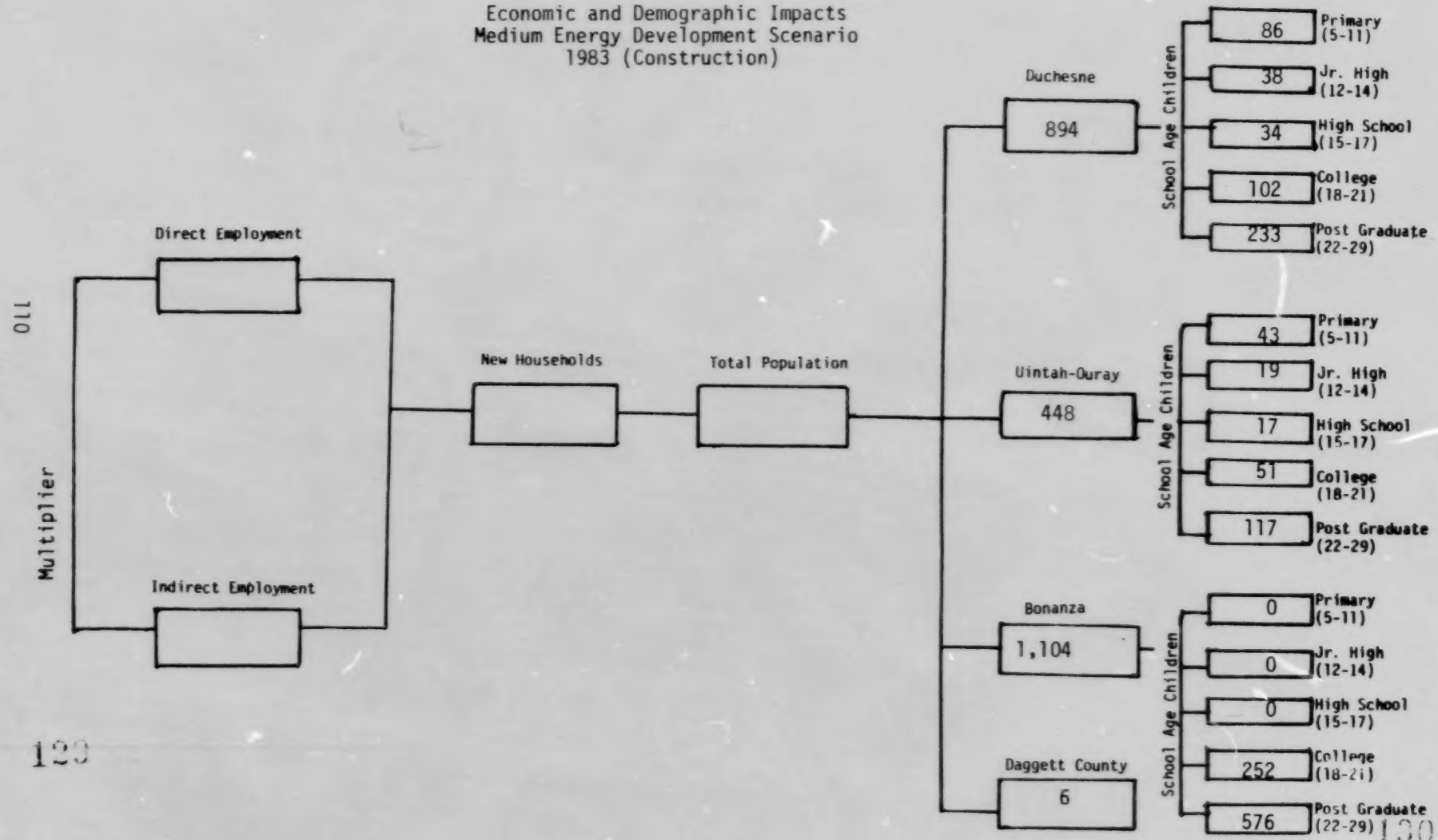
Economic and Demographic Impacts
Medium Energy Development Scenario
1983 (Operations)



Rest of area breakdown

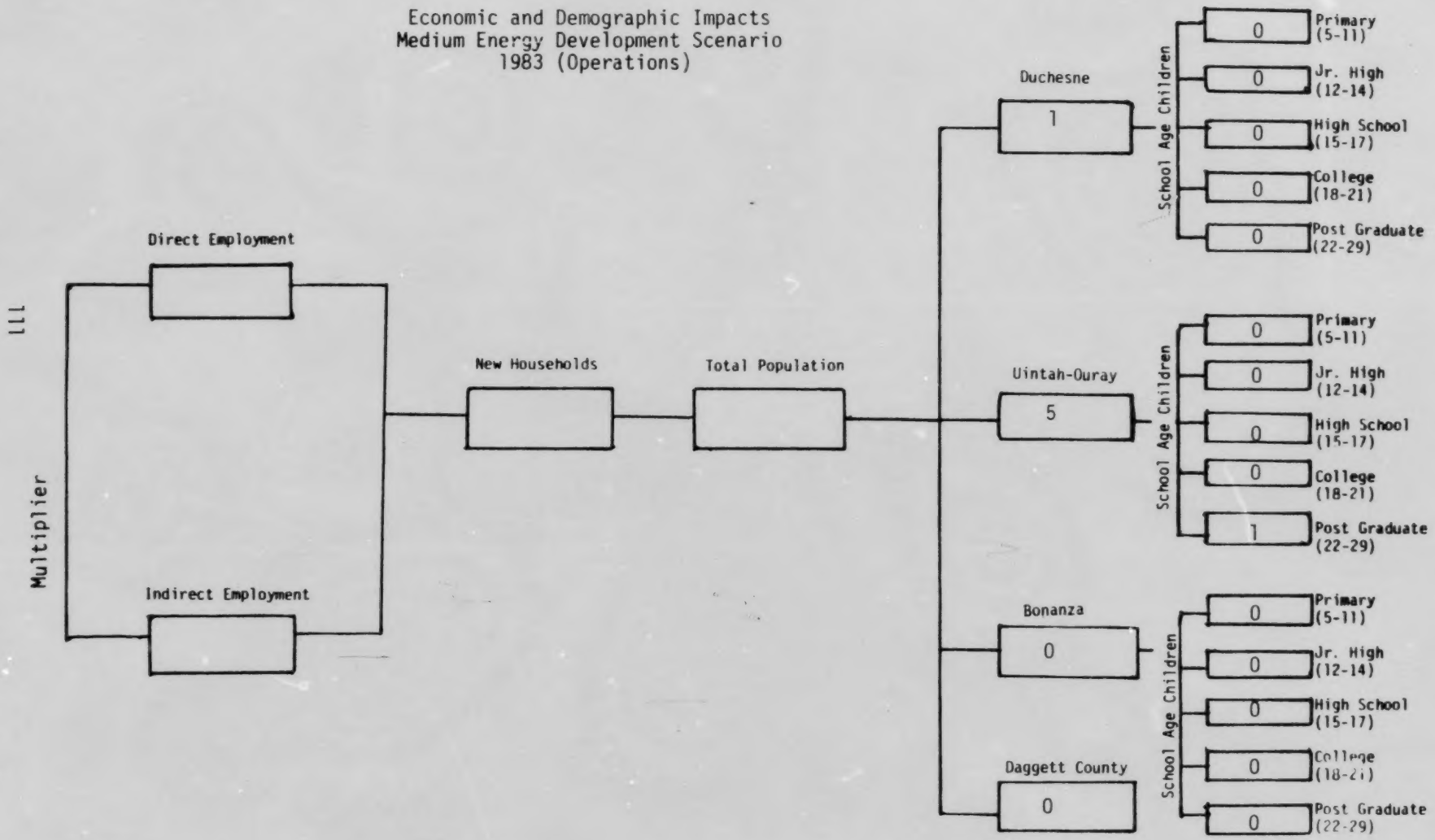
UINTAH BASIN MCD

Economic and Demographic Impacts
Medium Energy Development Scenario
1983 (Construction)



UINTAH BASIN MCD

Economic and Demographic Impacts
Medium Energy Development Scenario
1983 (Operations)



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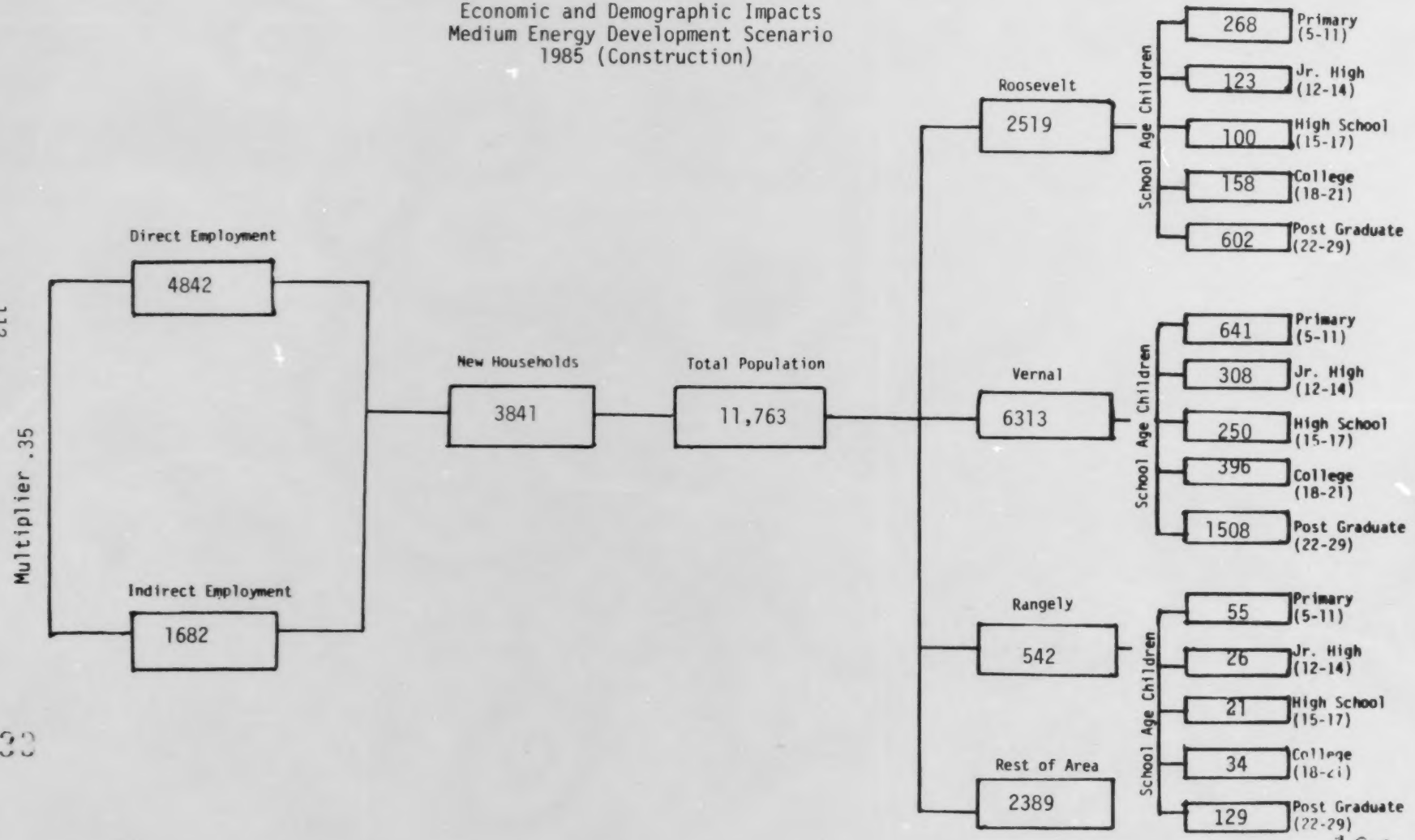
Economic and Demographic Impacts
Medium Energy Development Scenario
1985 (Construction)



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Medium Energy Development Scenario
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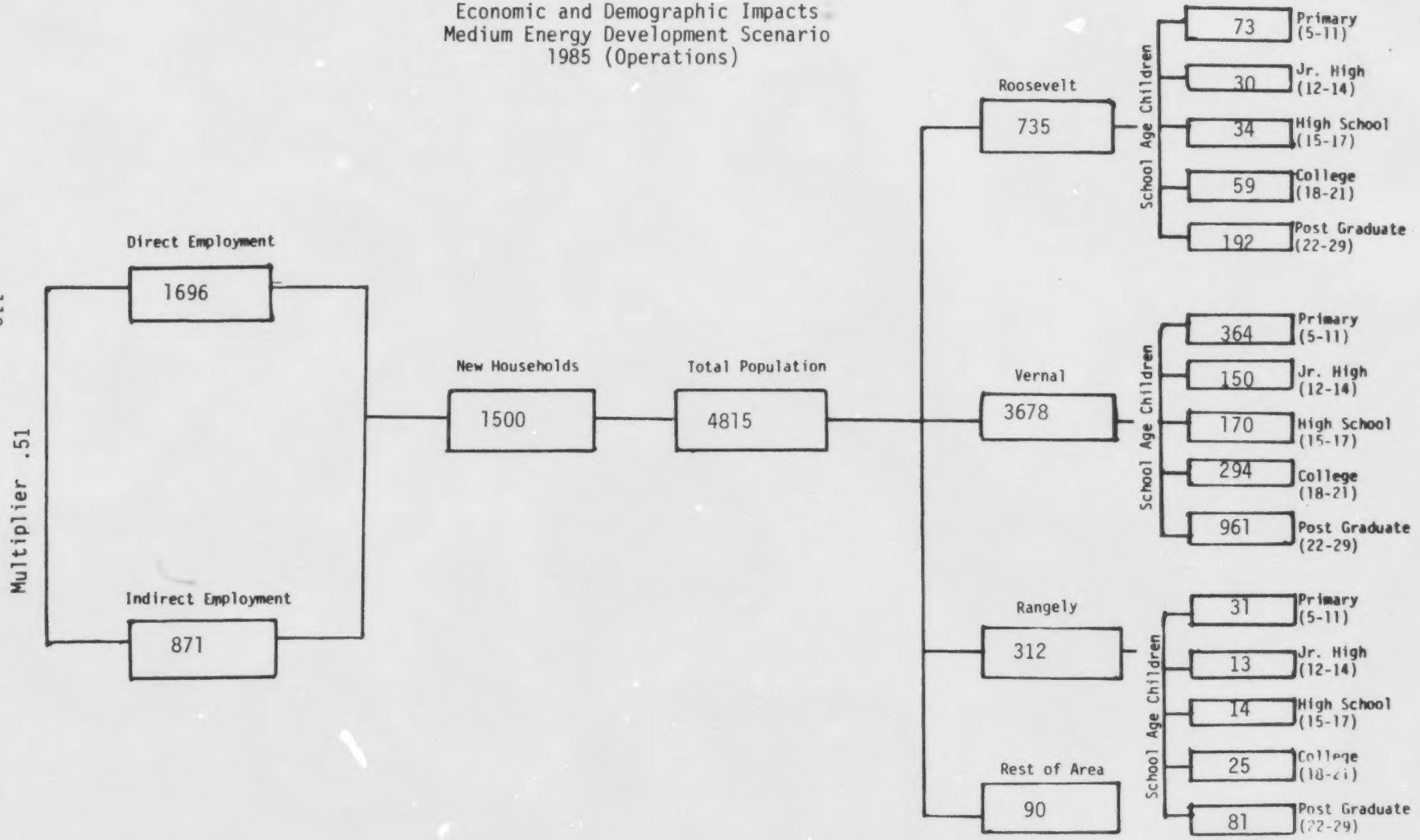

Rest of the area breakdown

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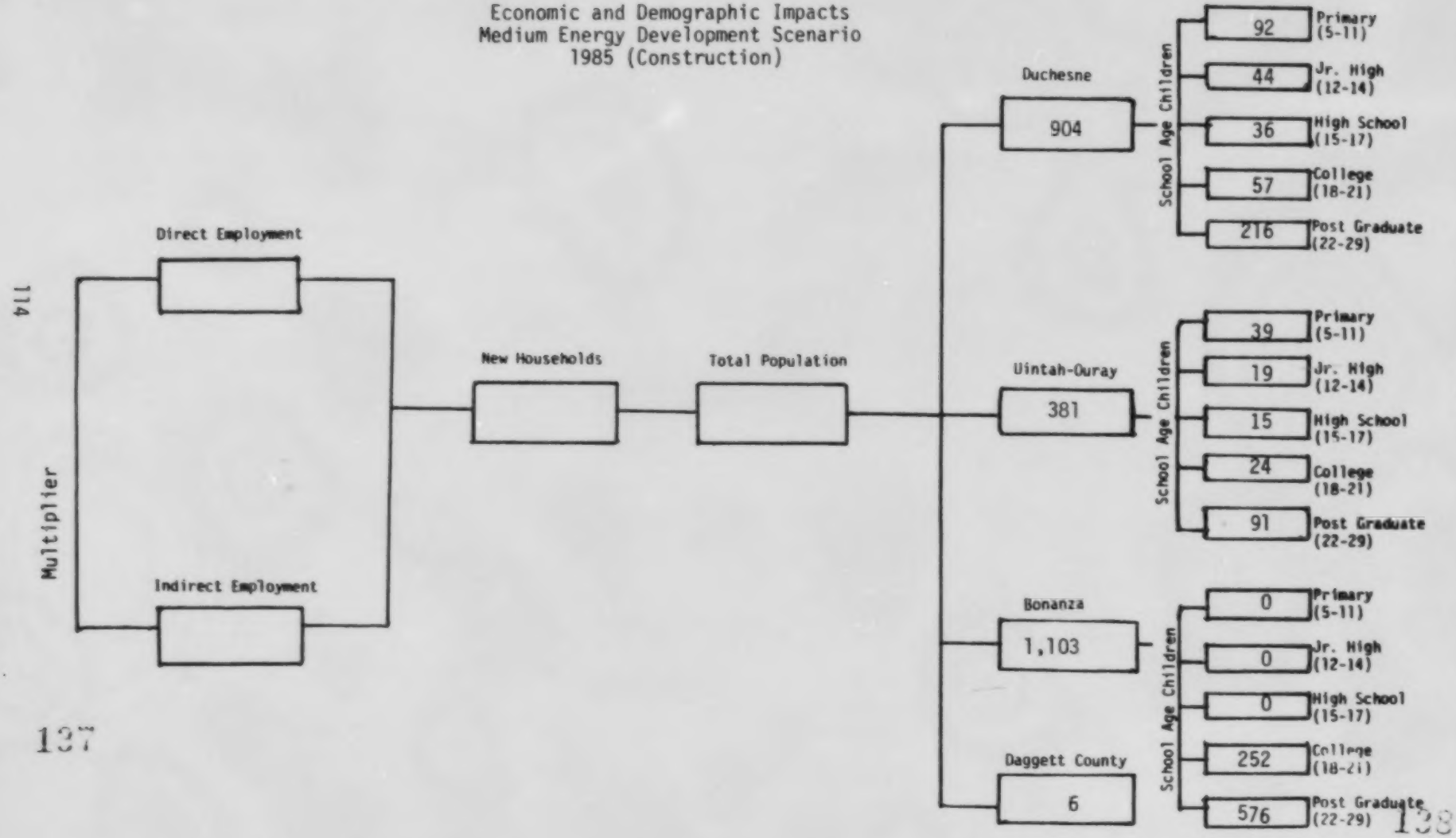
Medium Energy Development Scenario
1985 (Construction)



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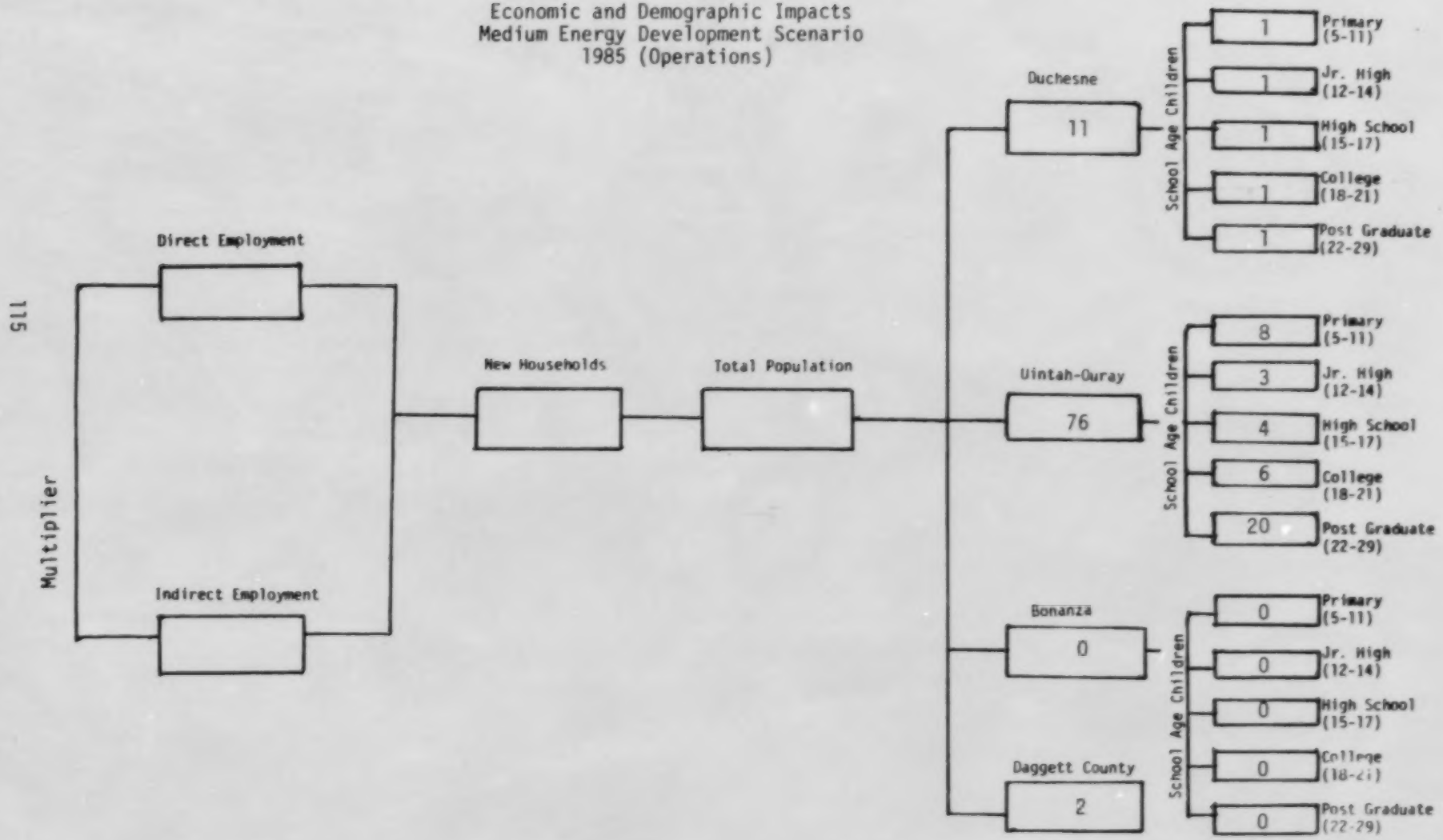

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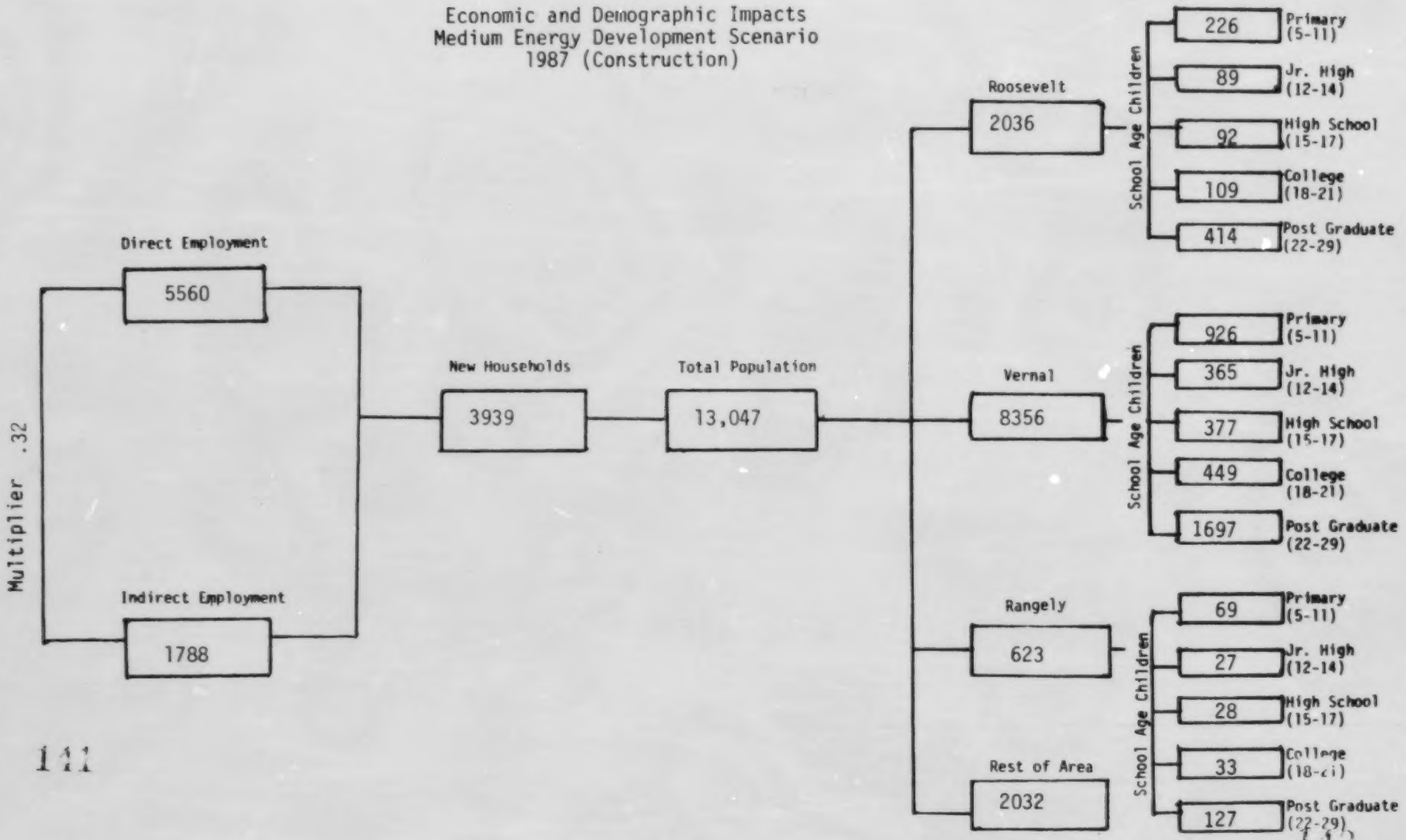

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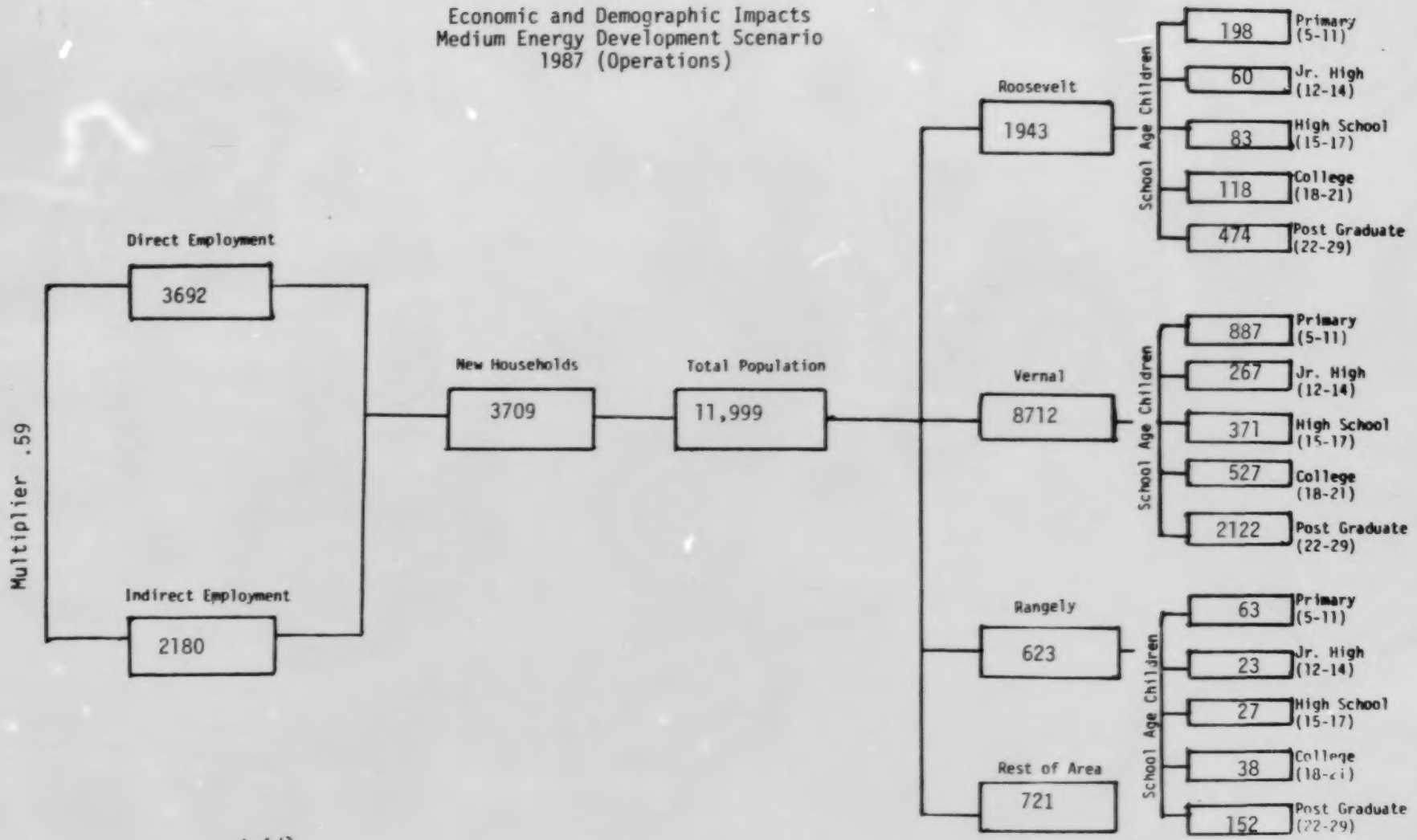

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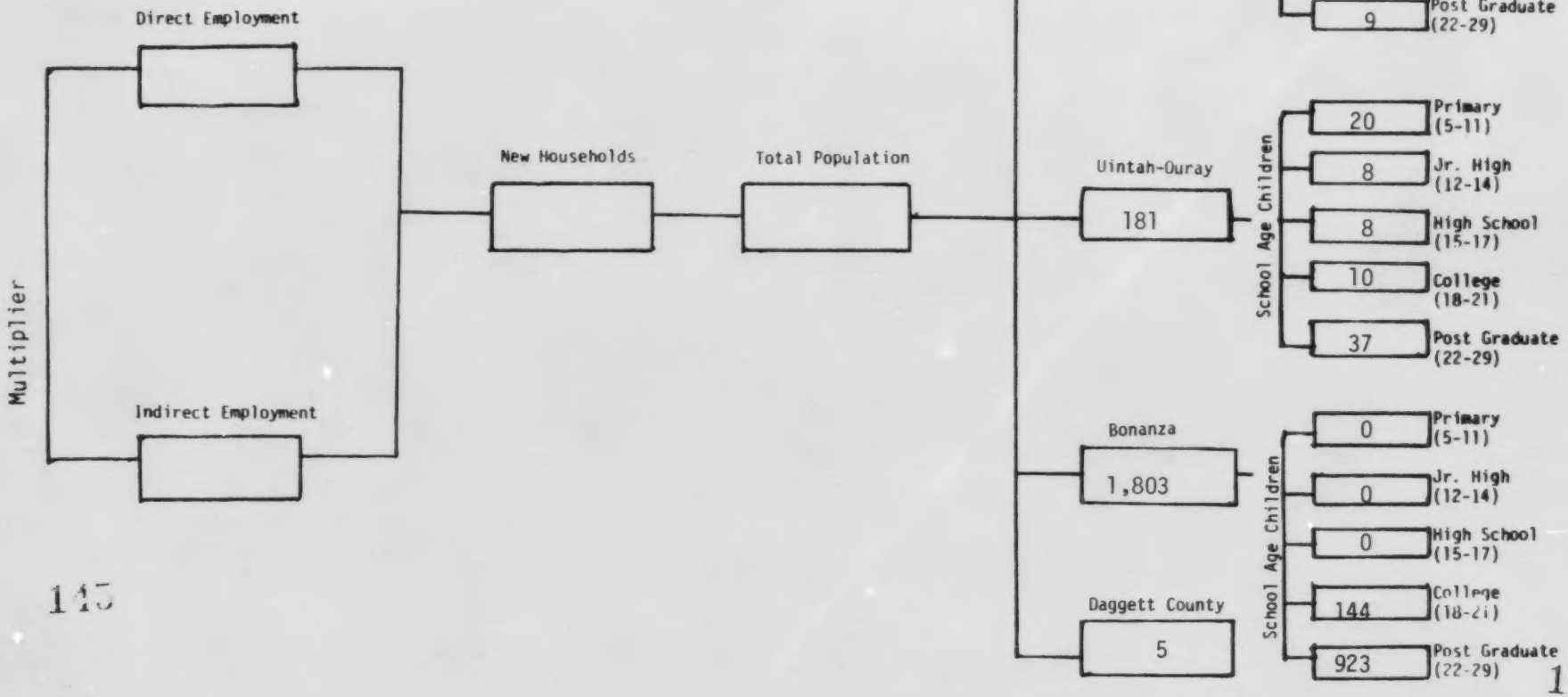

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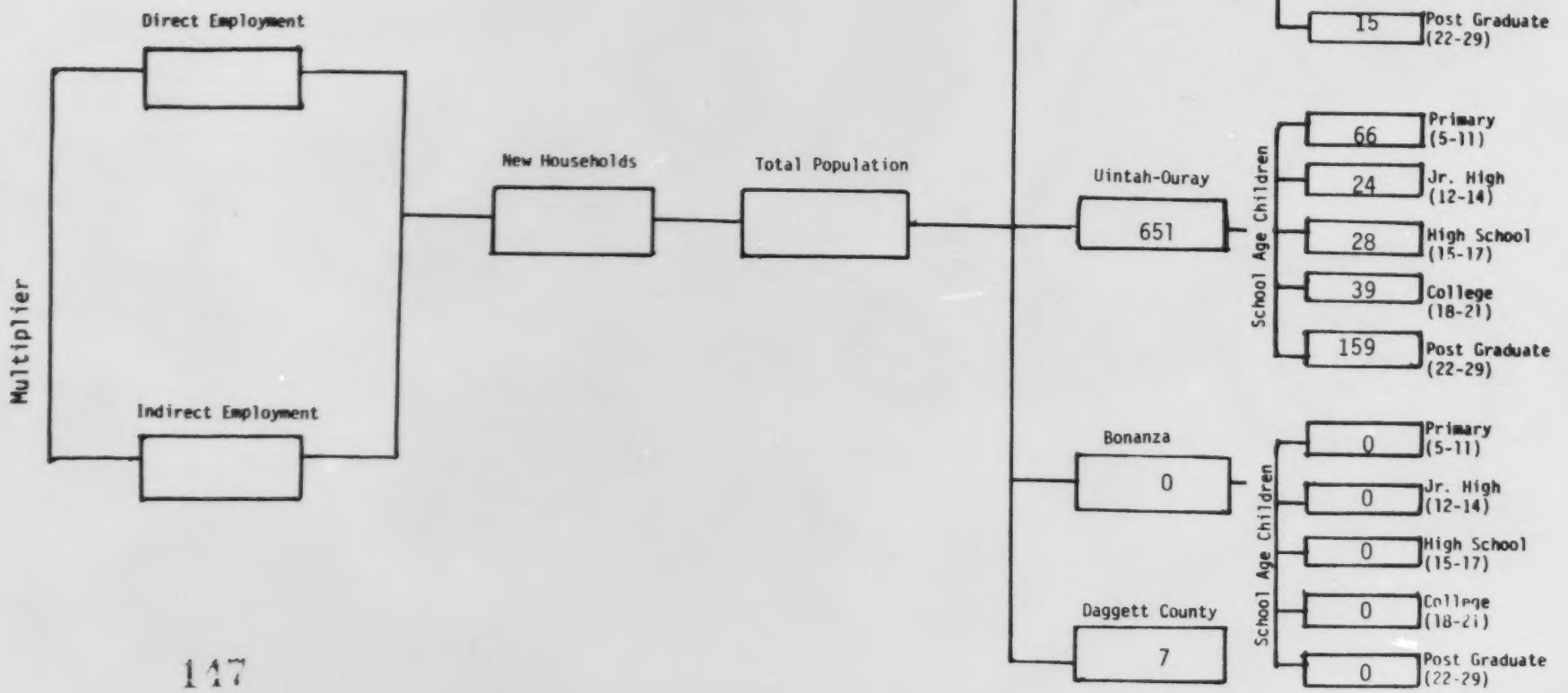

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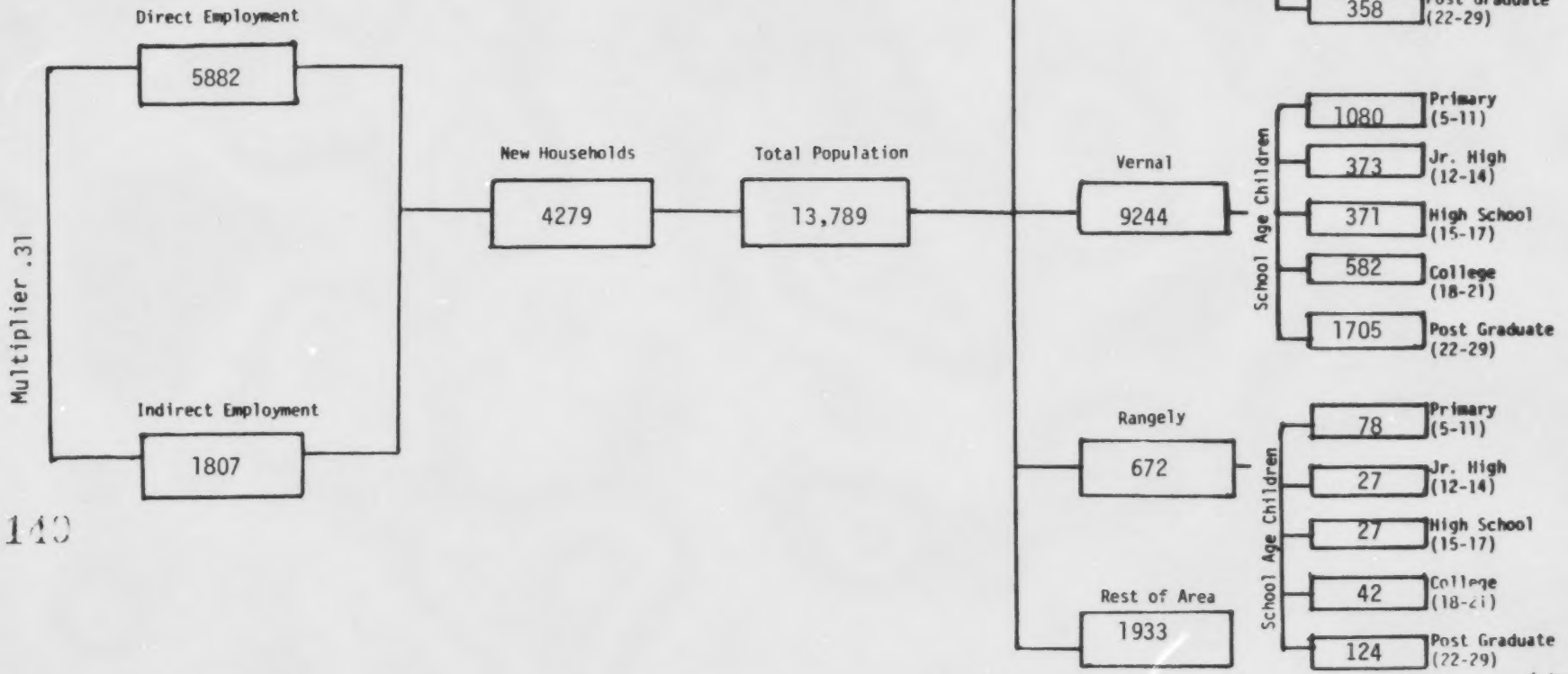

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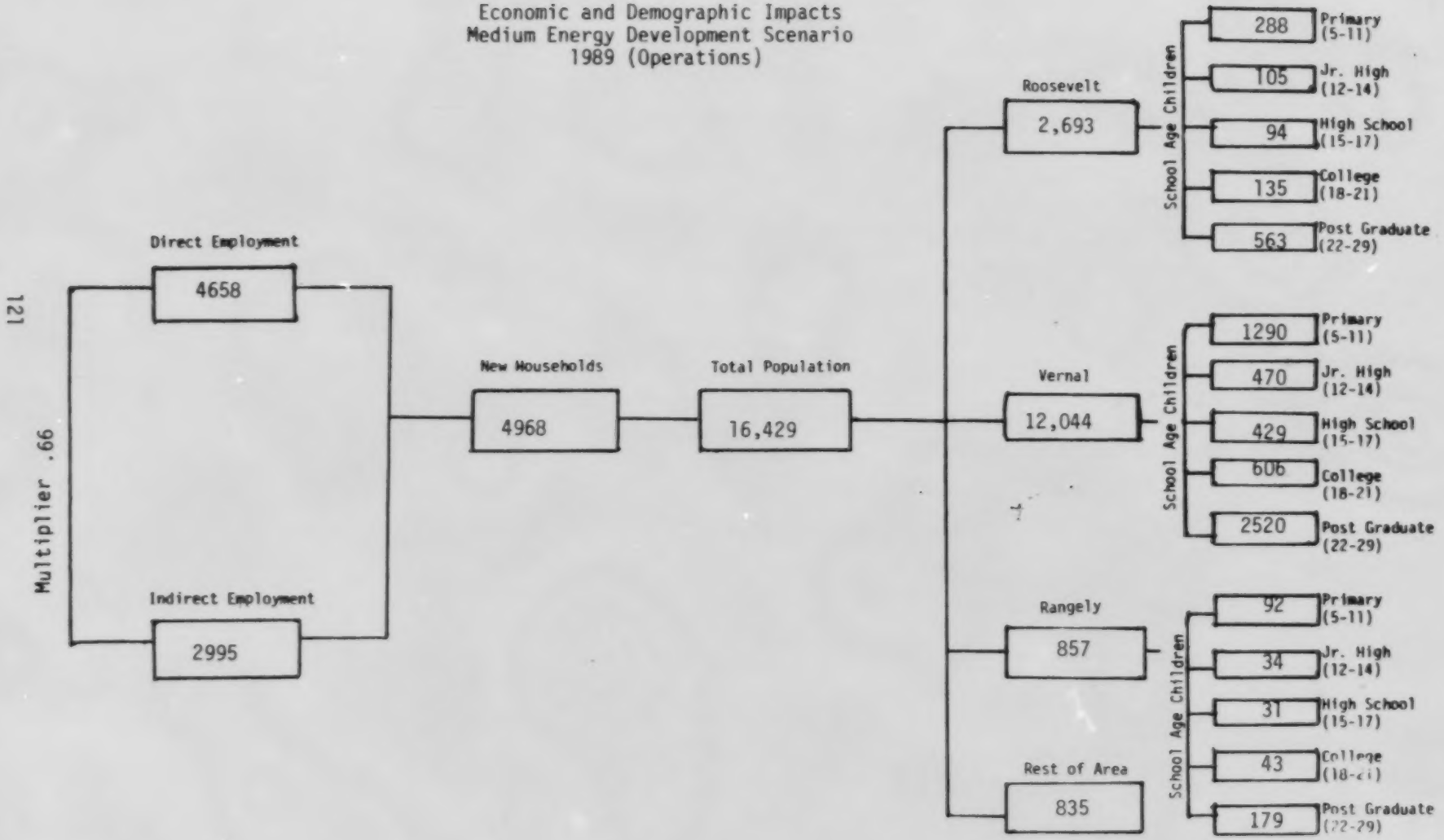

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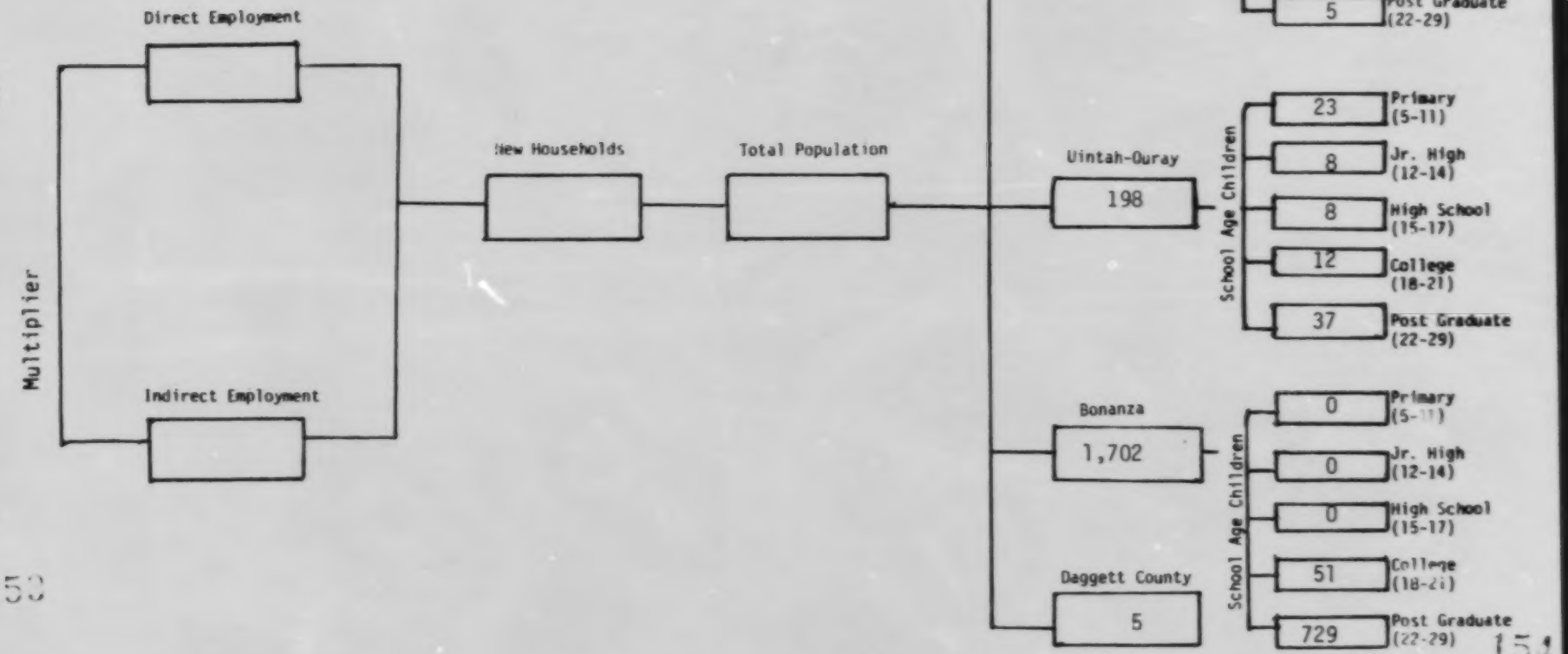

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Economic and Demographic Impacts
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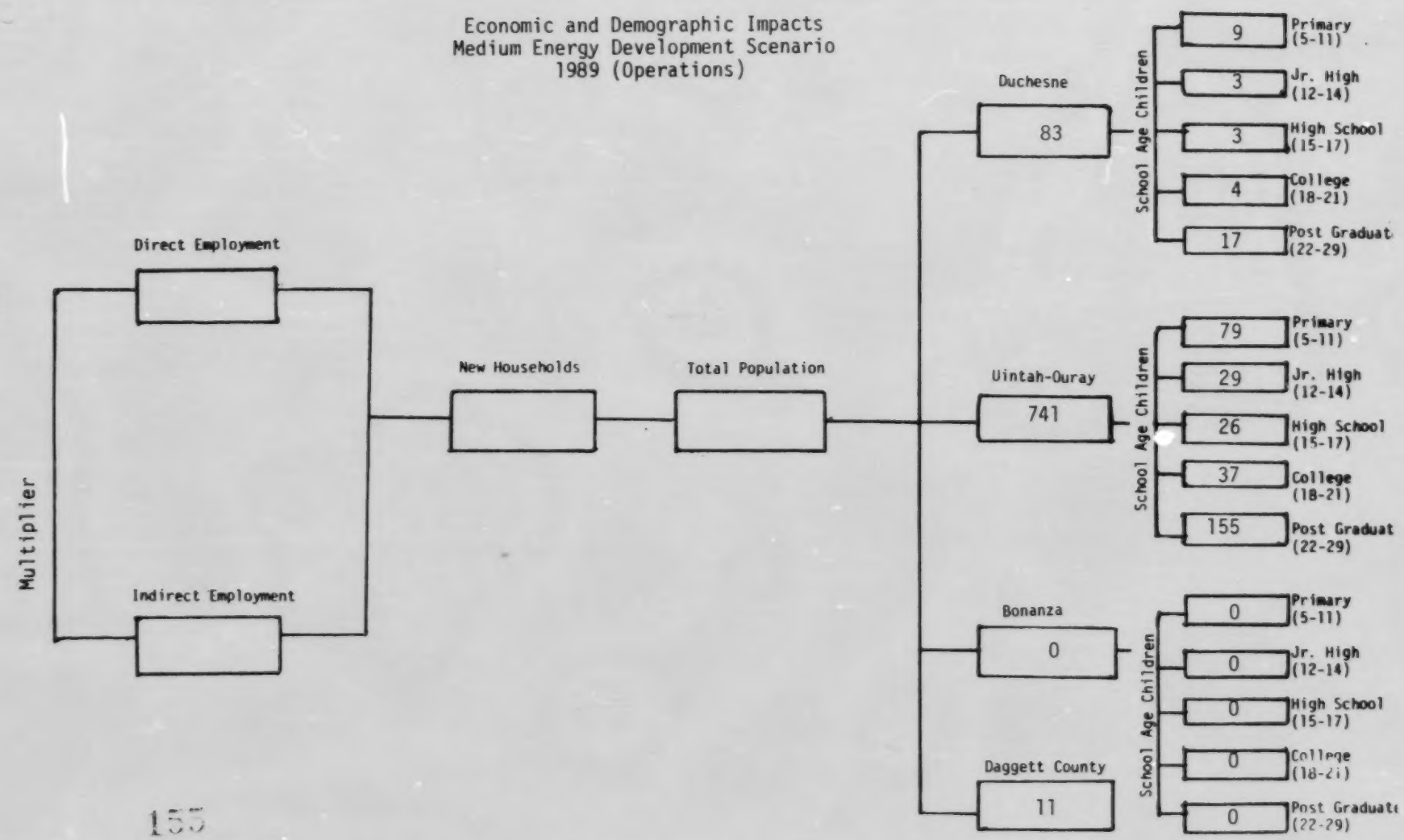

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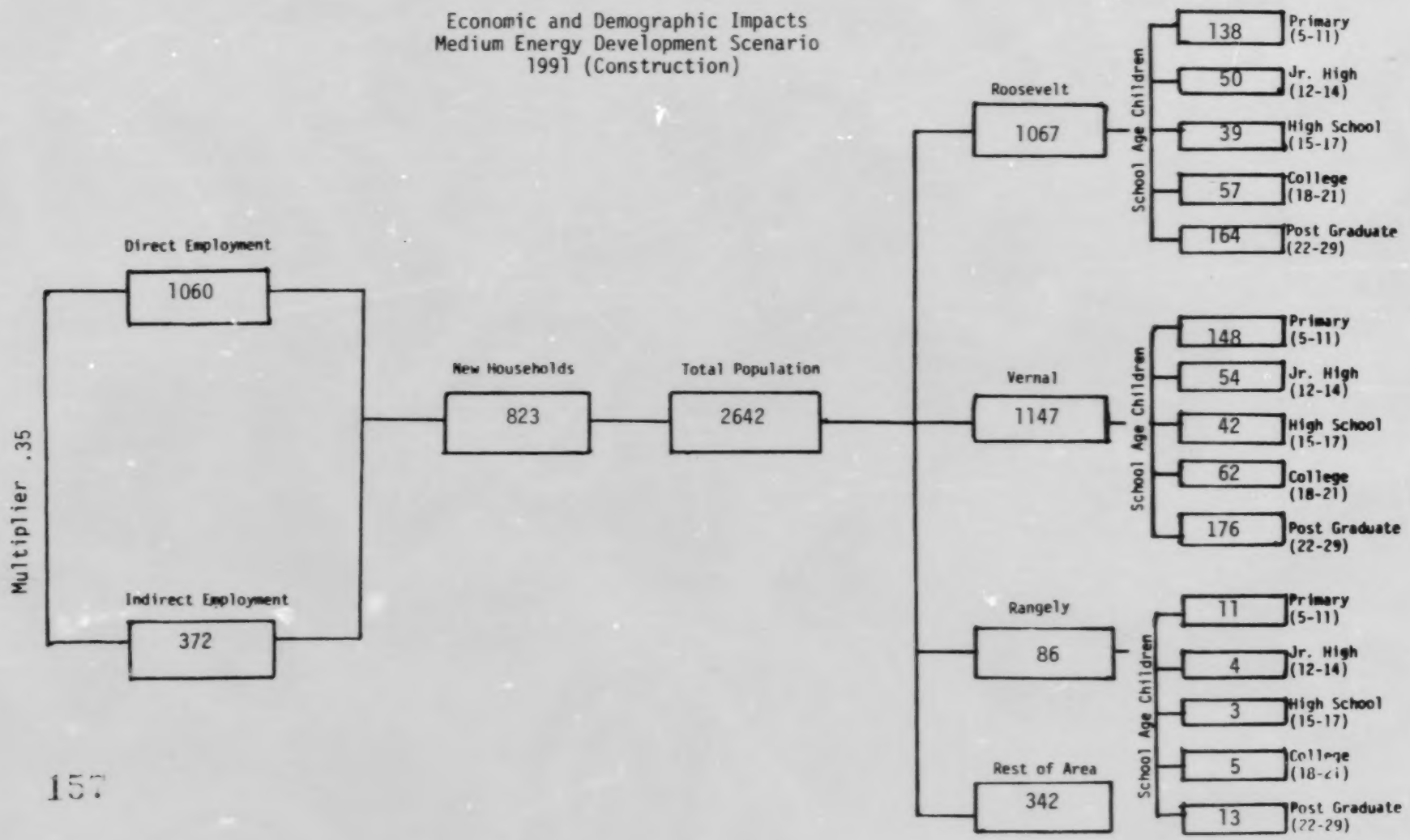
1991 (Construction)



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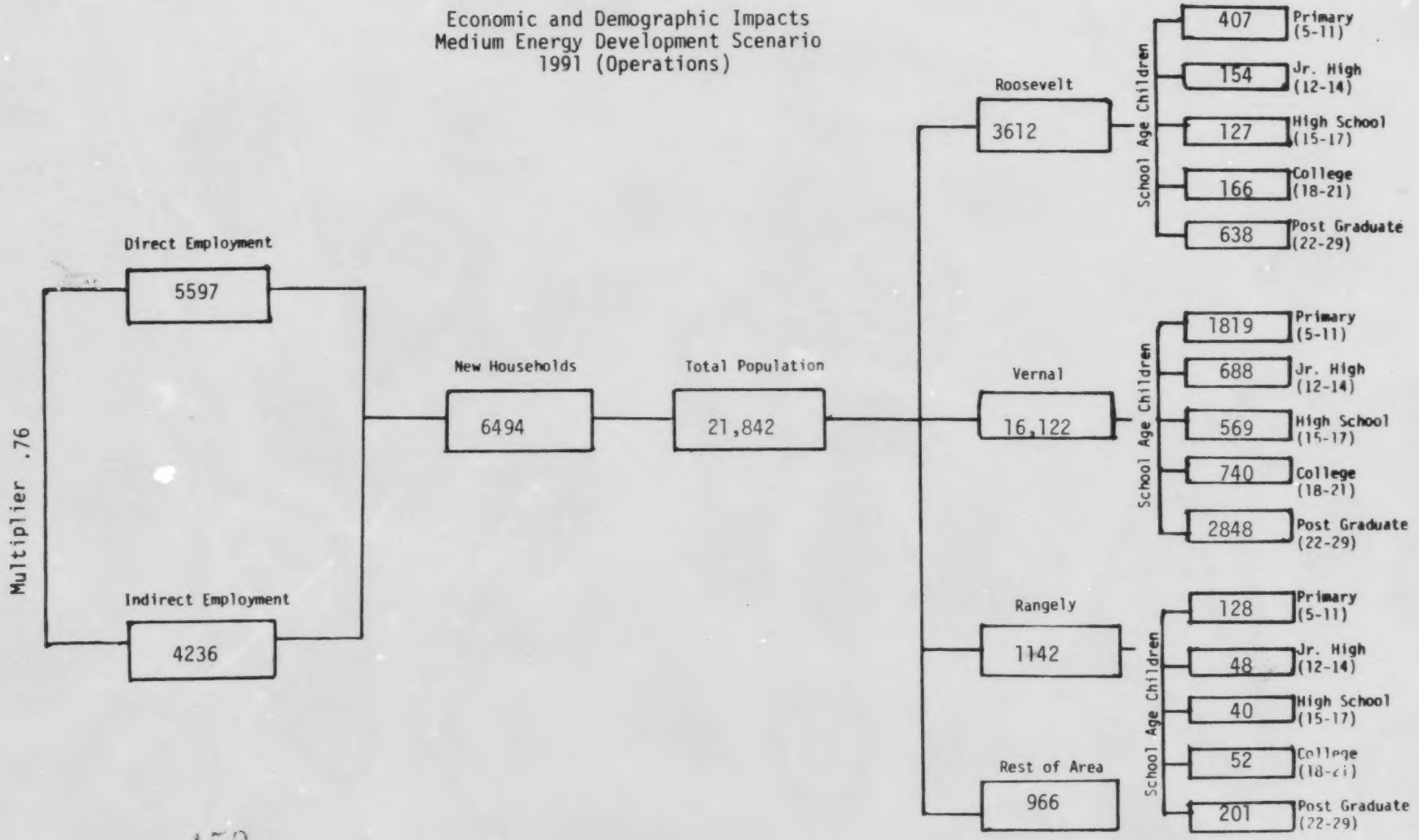
1991 (Operations)



Rest of area breakdown

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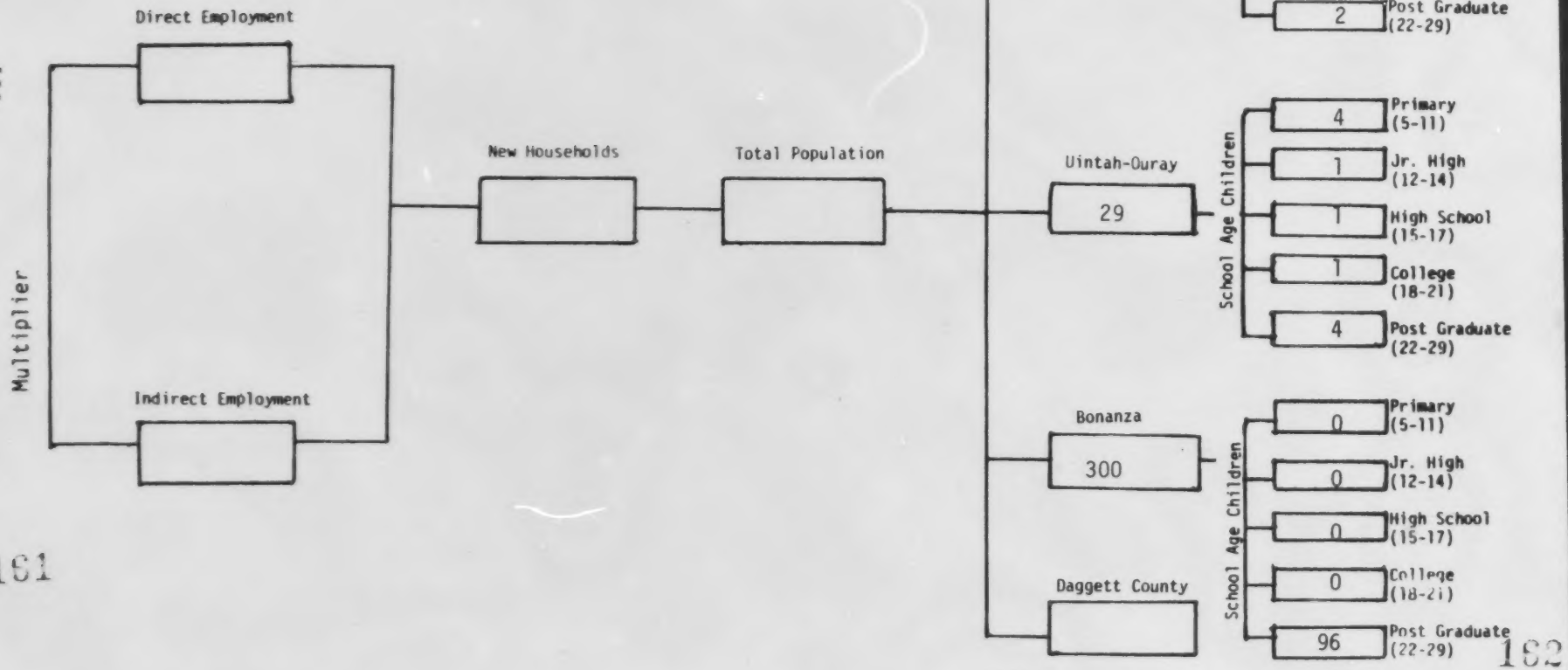
Economic and Demographic Impacts
Medium Energy Development Scenario
1991 (Construction)



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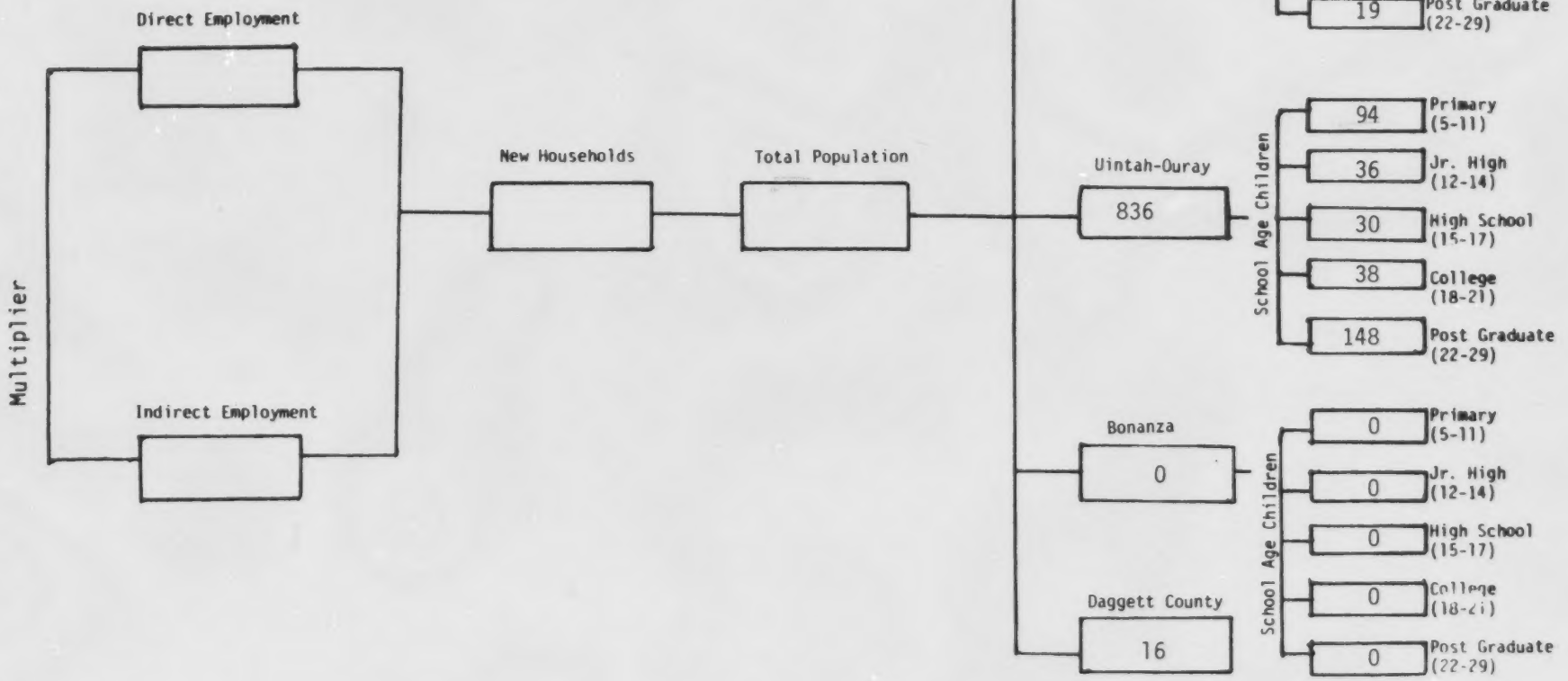
1991 (Operations)



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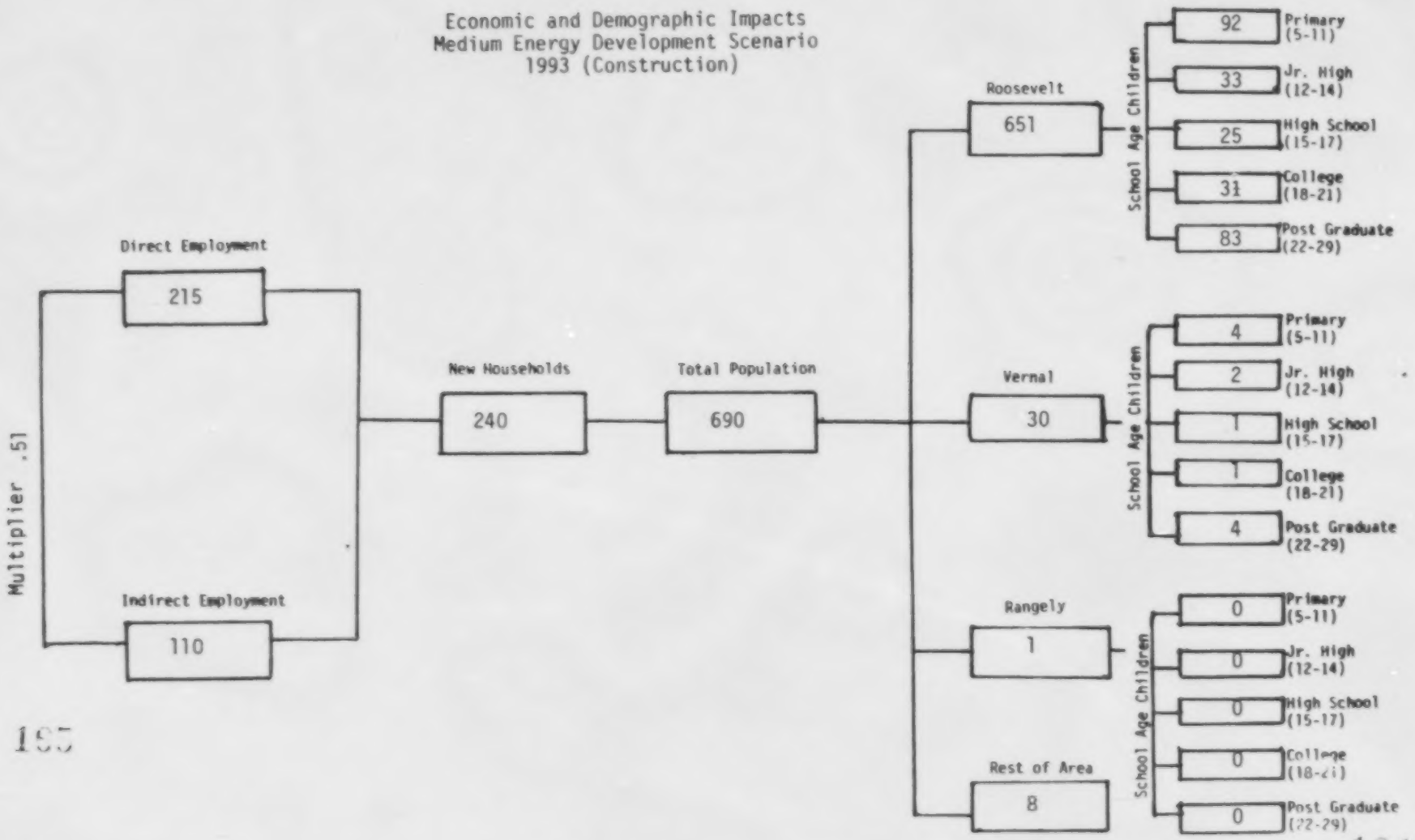

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Economic and Demographic Impacts
Medium Energy Development Scenario
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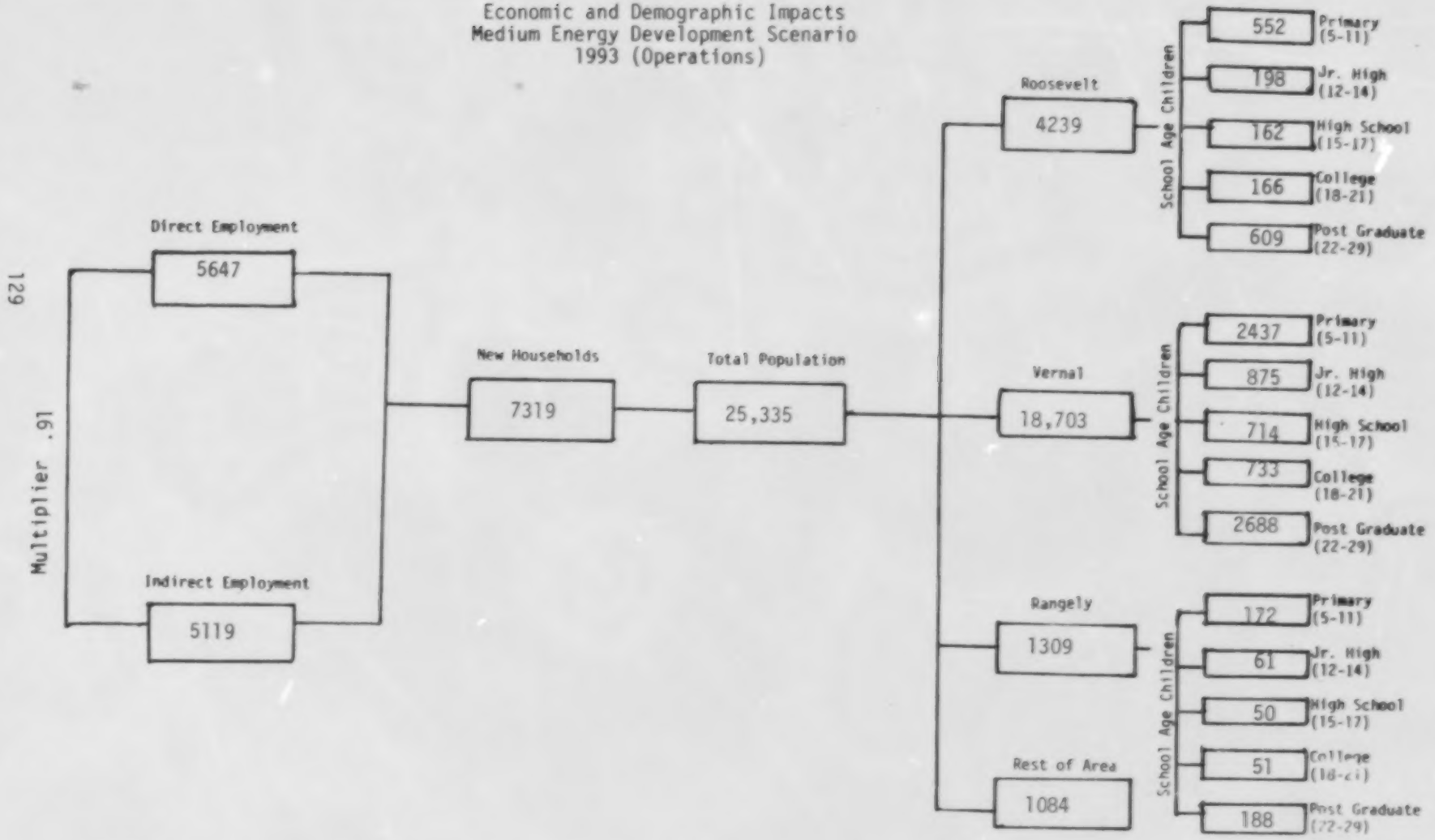

Rest of area breakdown

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Economic and Demographic Impacts
Medium Energy Development Scenario
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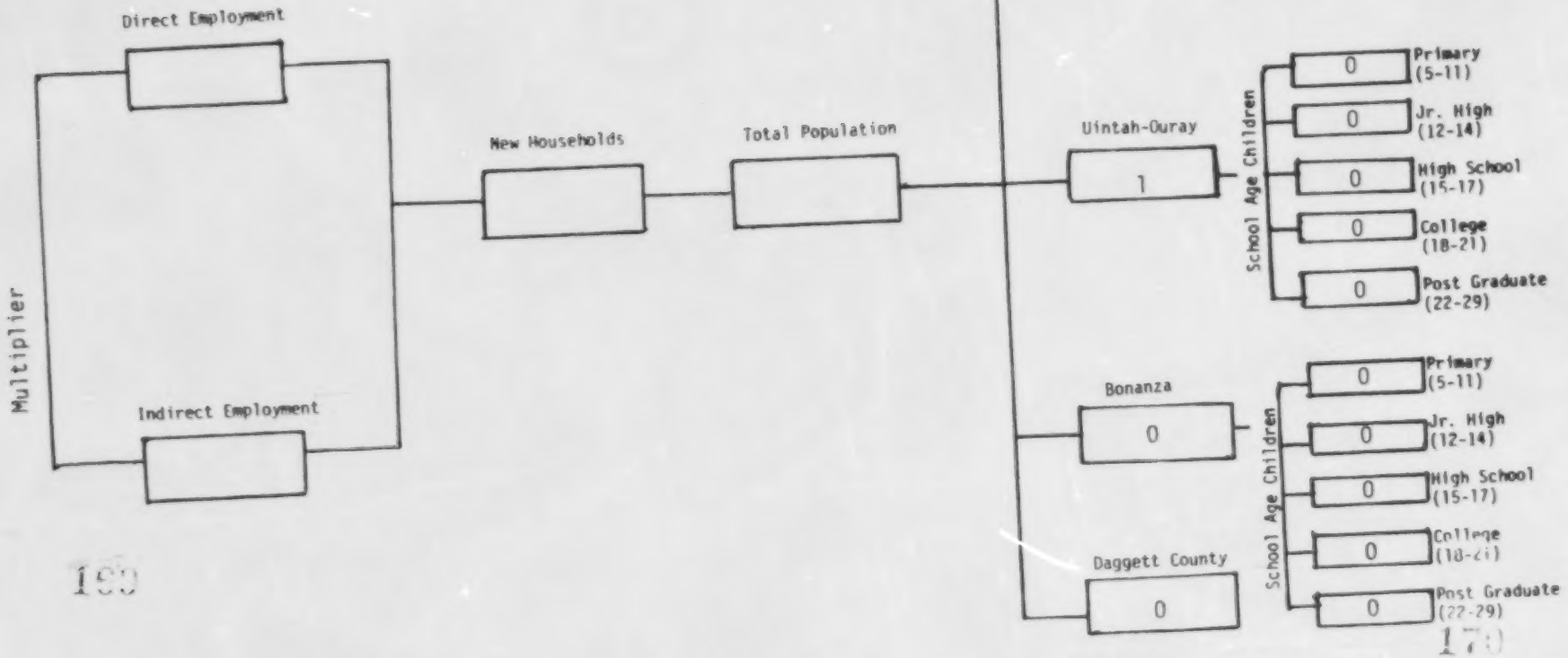

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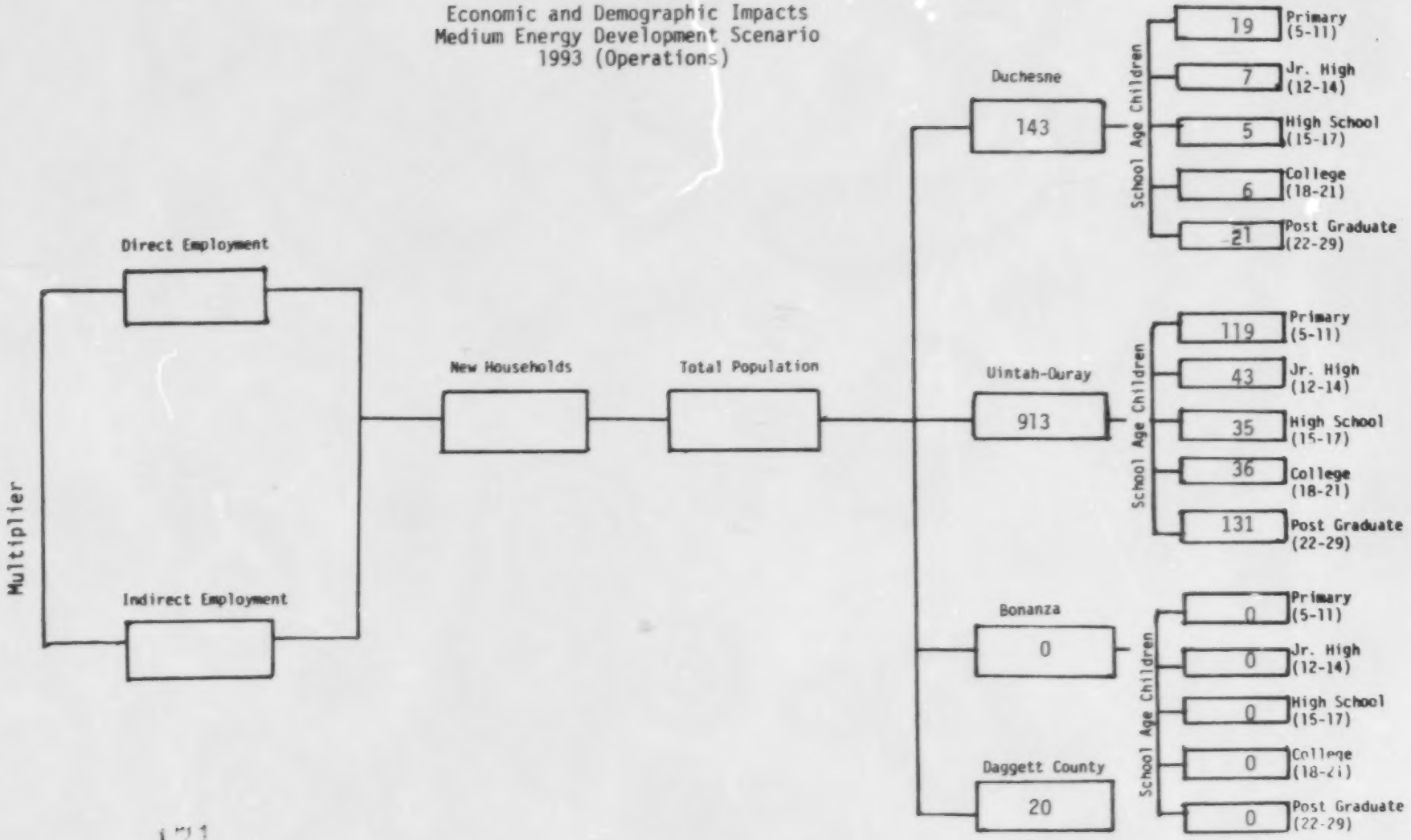

APPENDIX B

HIGH ENERGY DEVELOPMENT SCENARIOS

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Economic and Demographic Impacts
High Energy Development Scenario
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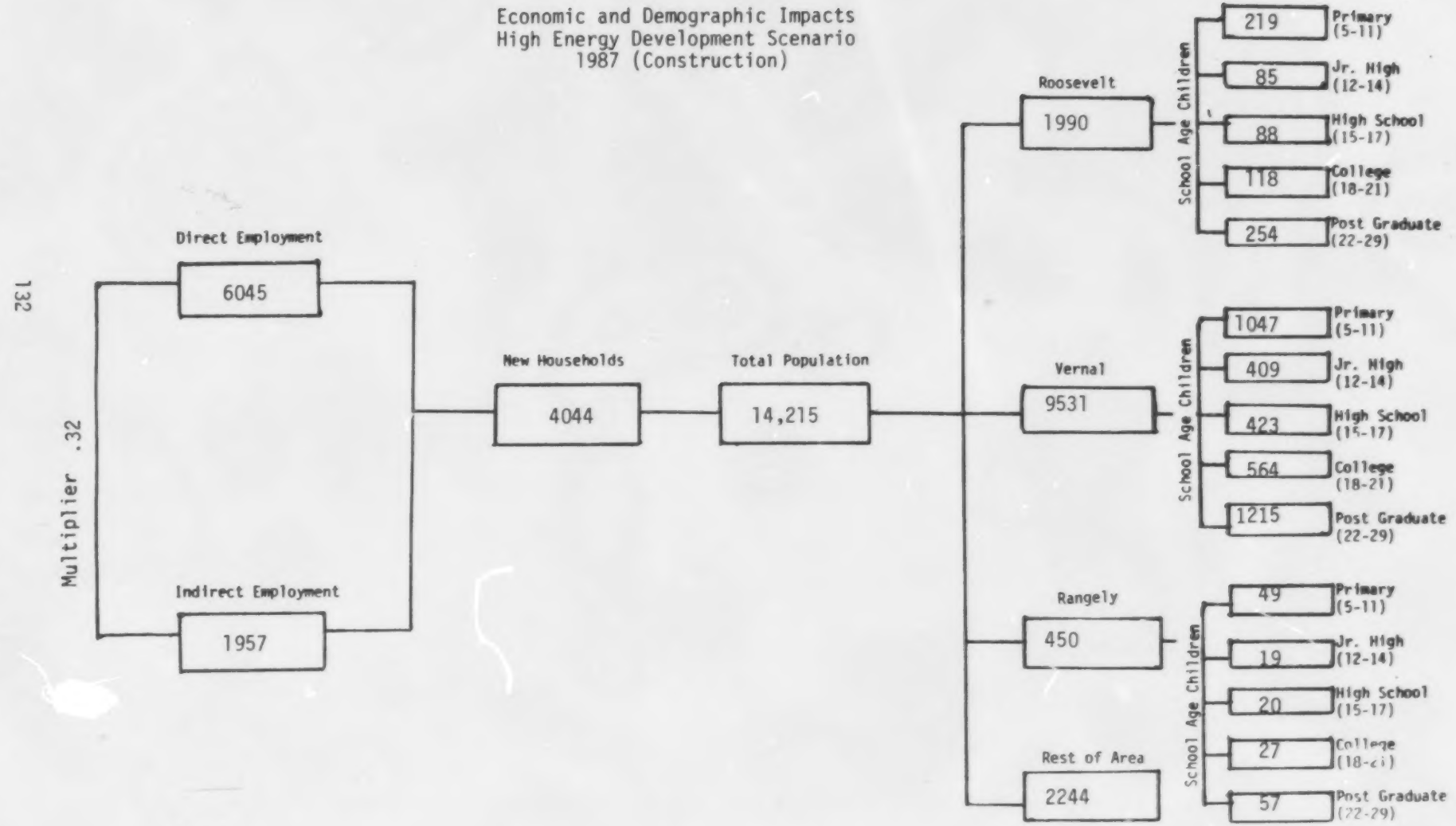

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UINTAH BASIN MCD

Economic and Demographic Impacts
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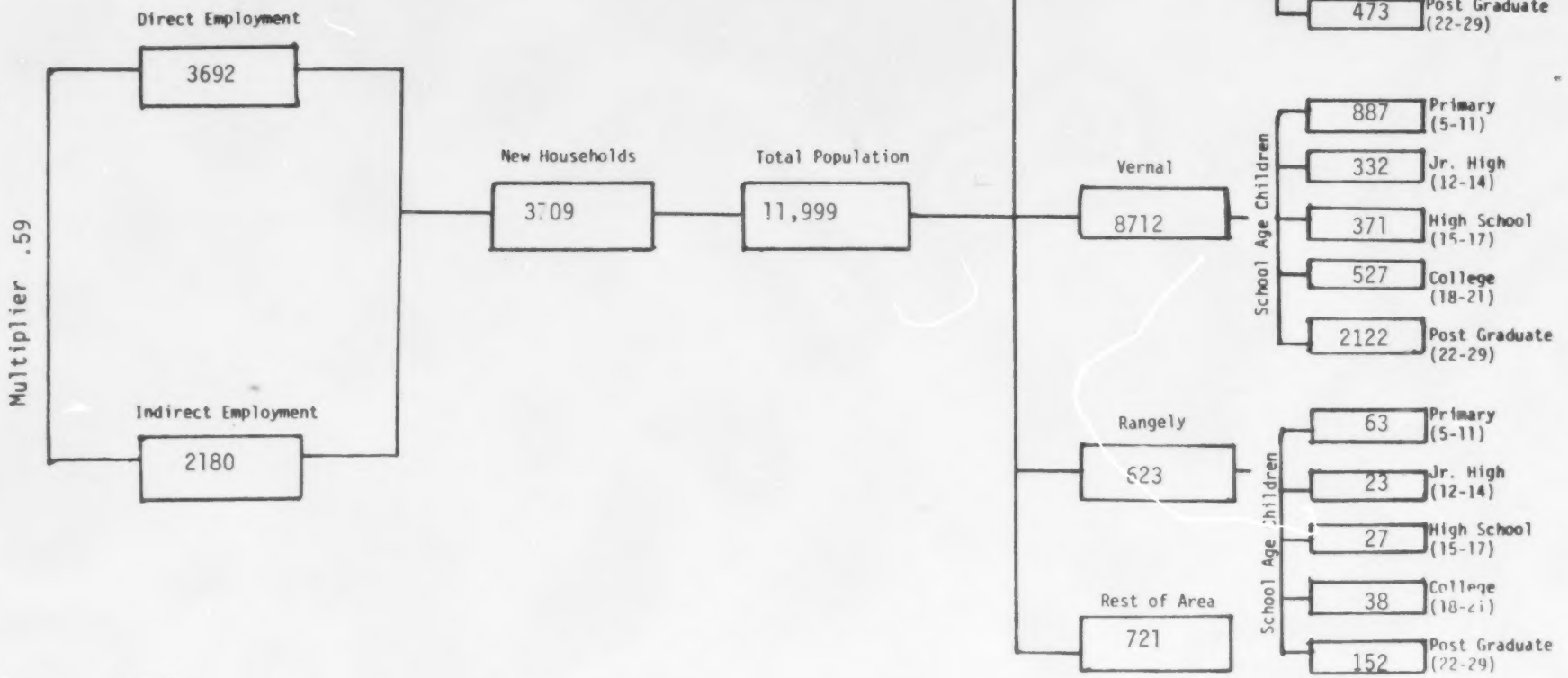

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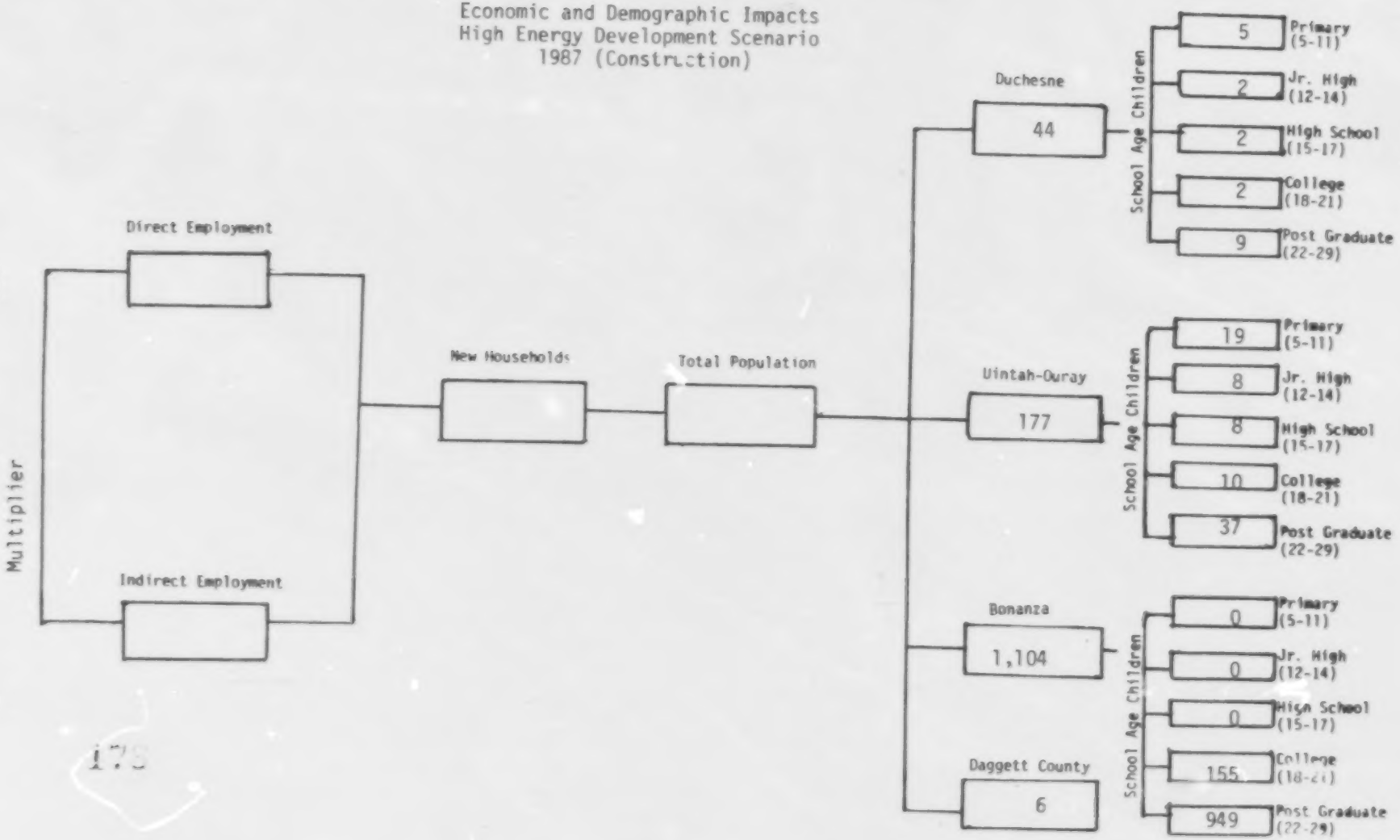

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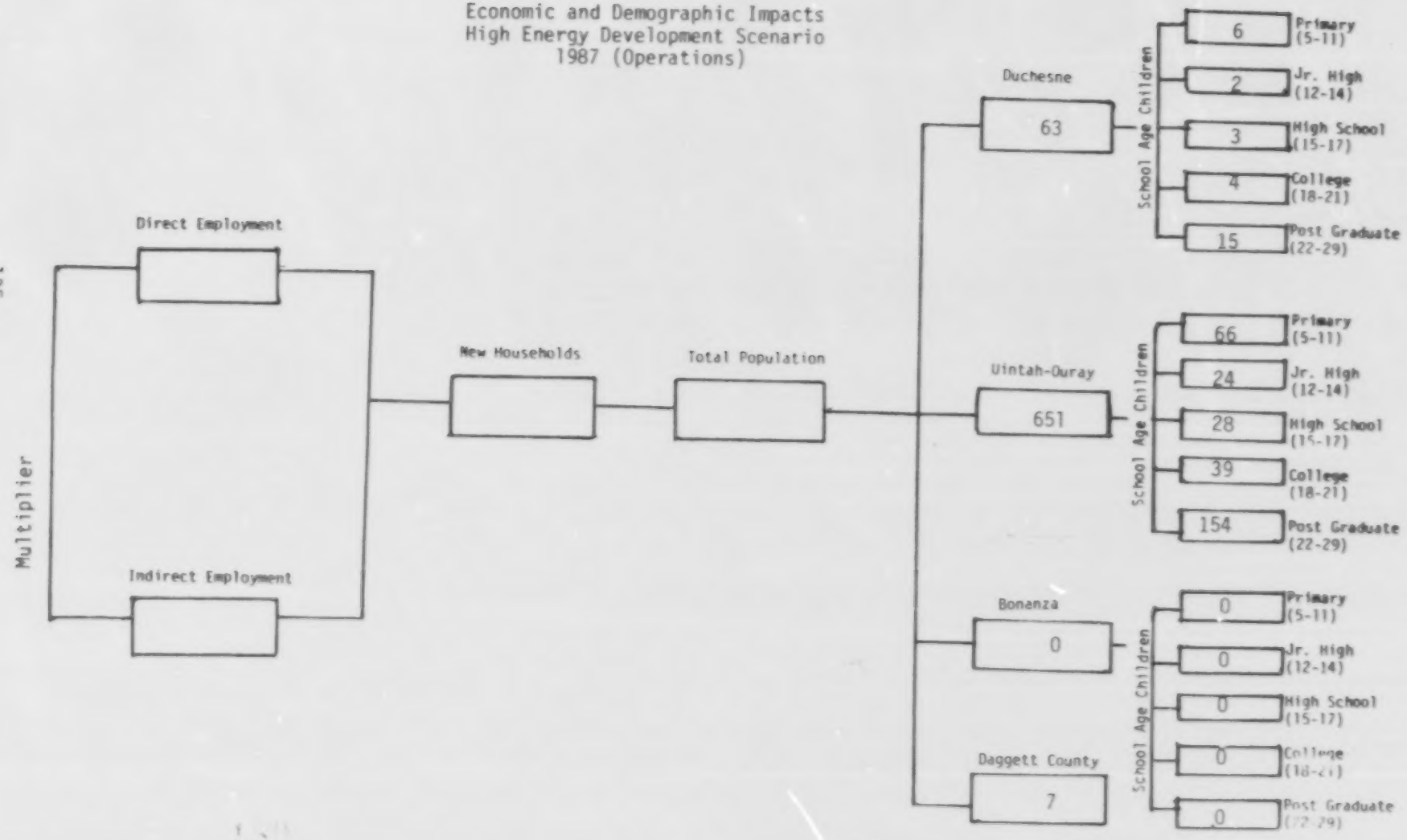

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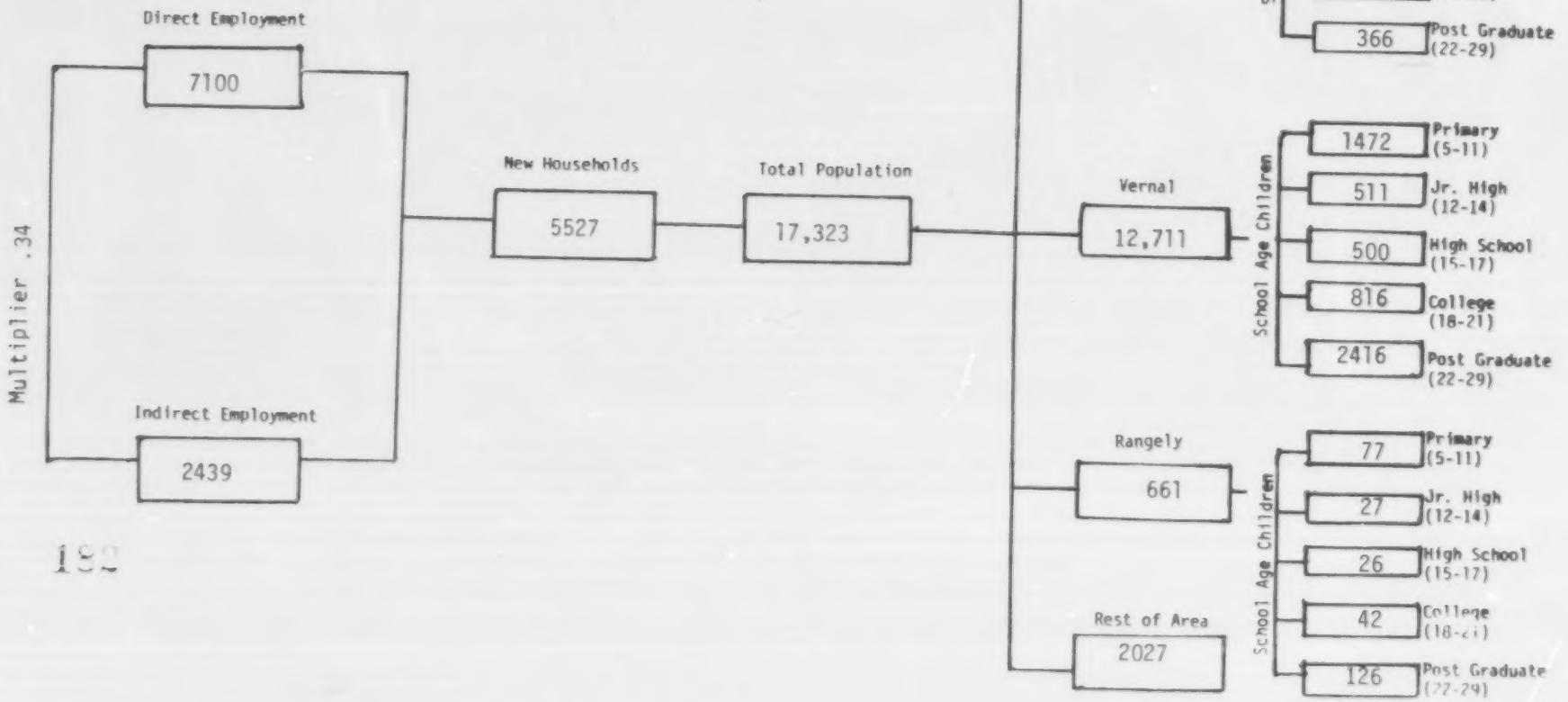

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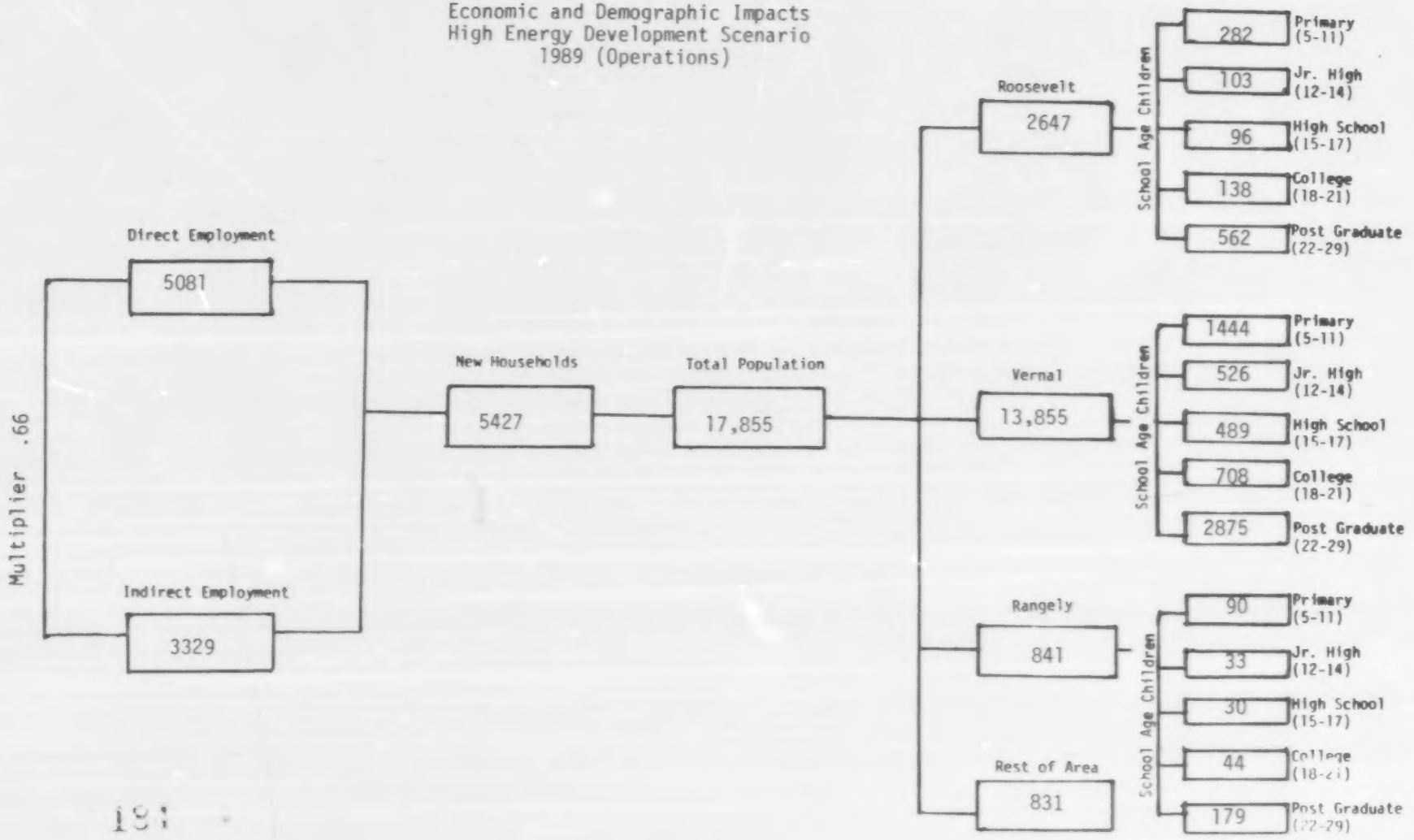

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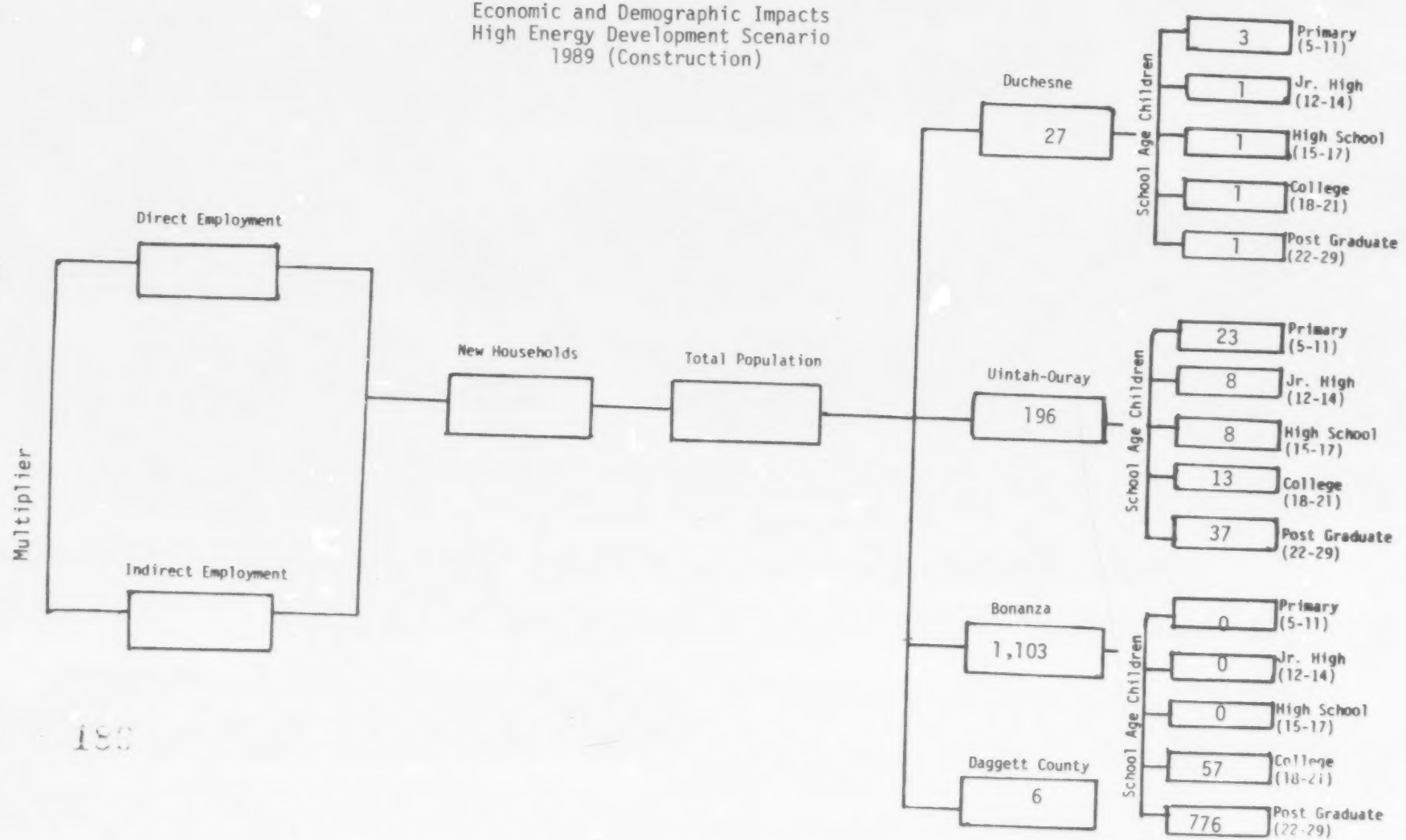

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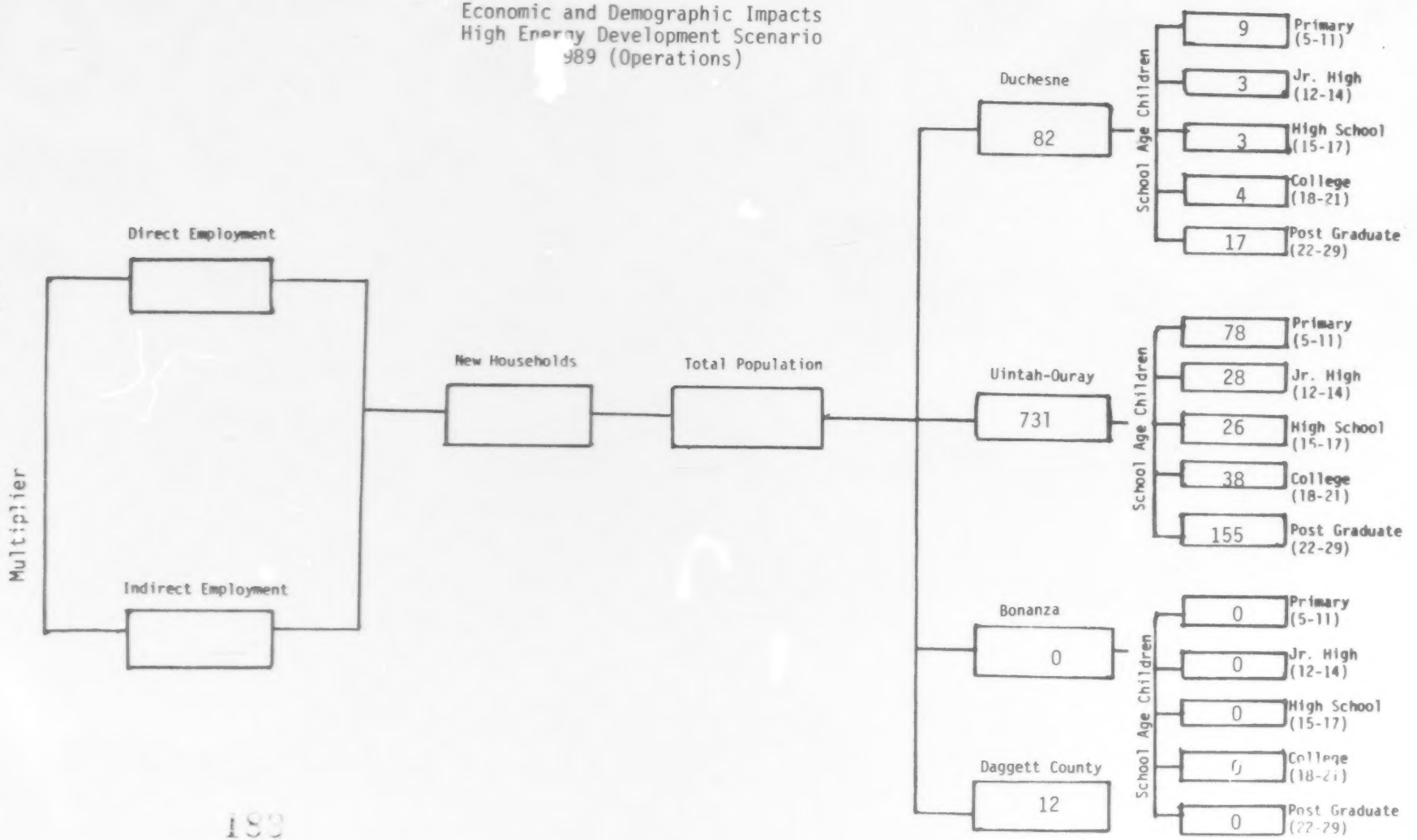

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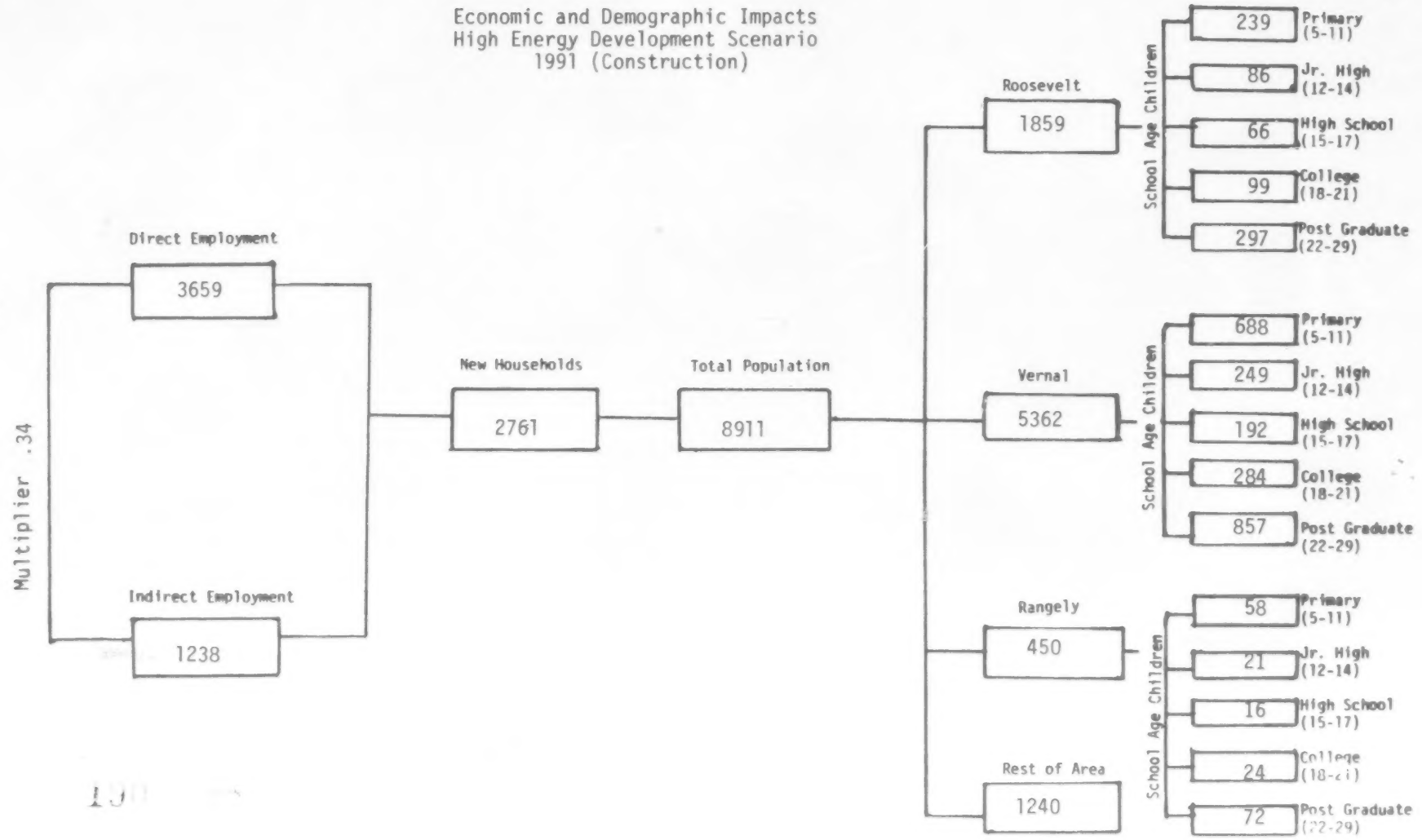

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Economic and Demographic Impacts
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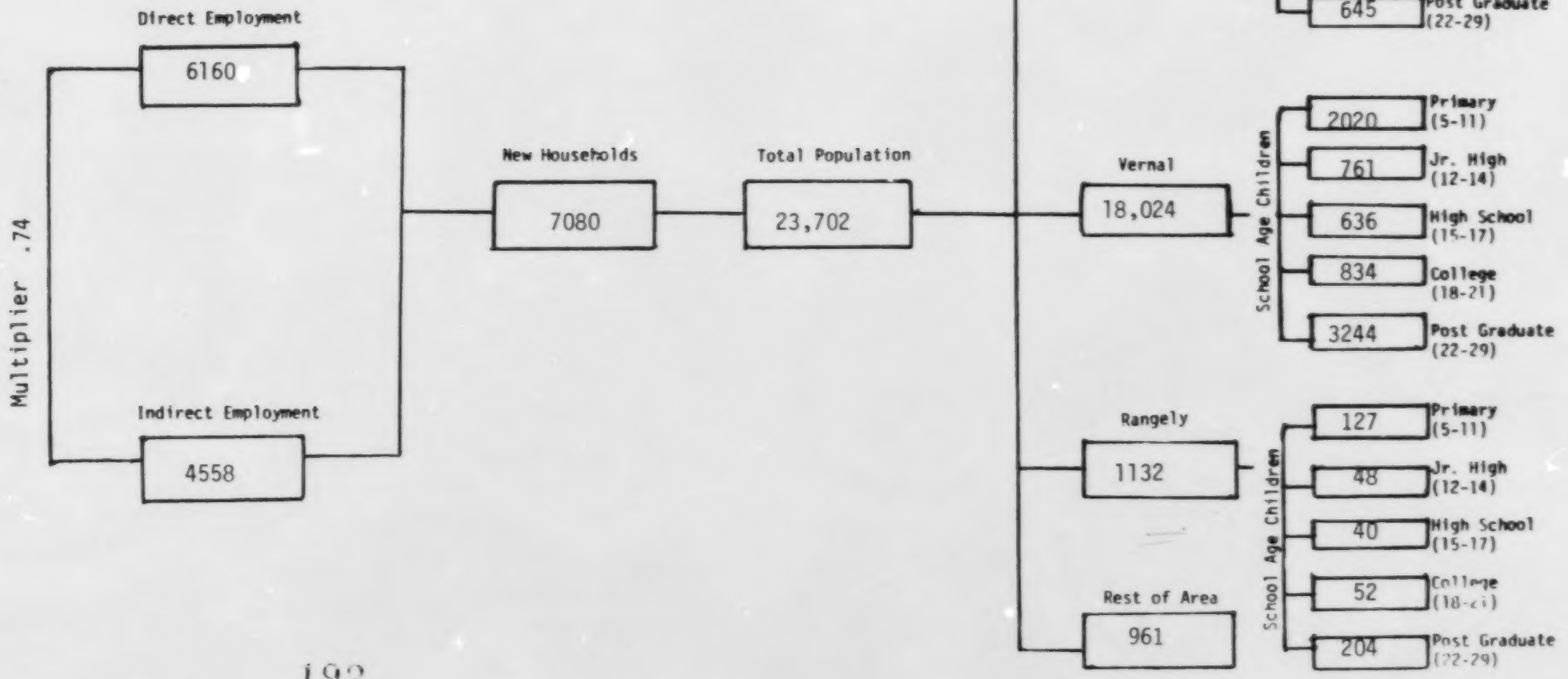
1991 (Operations)



Rest of area breakdown

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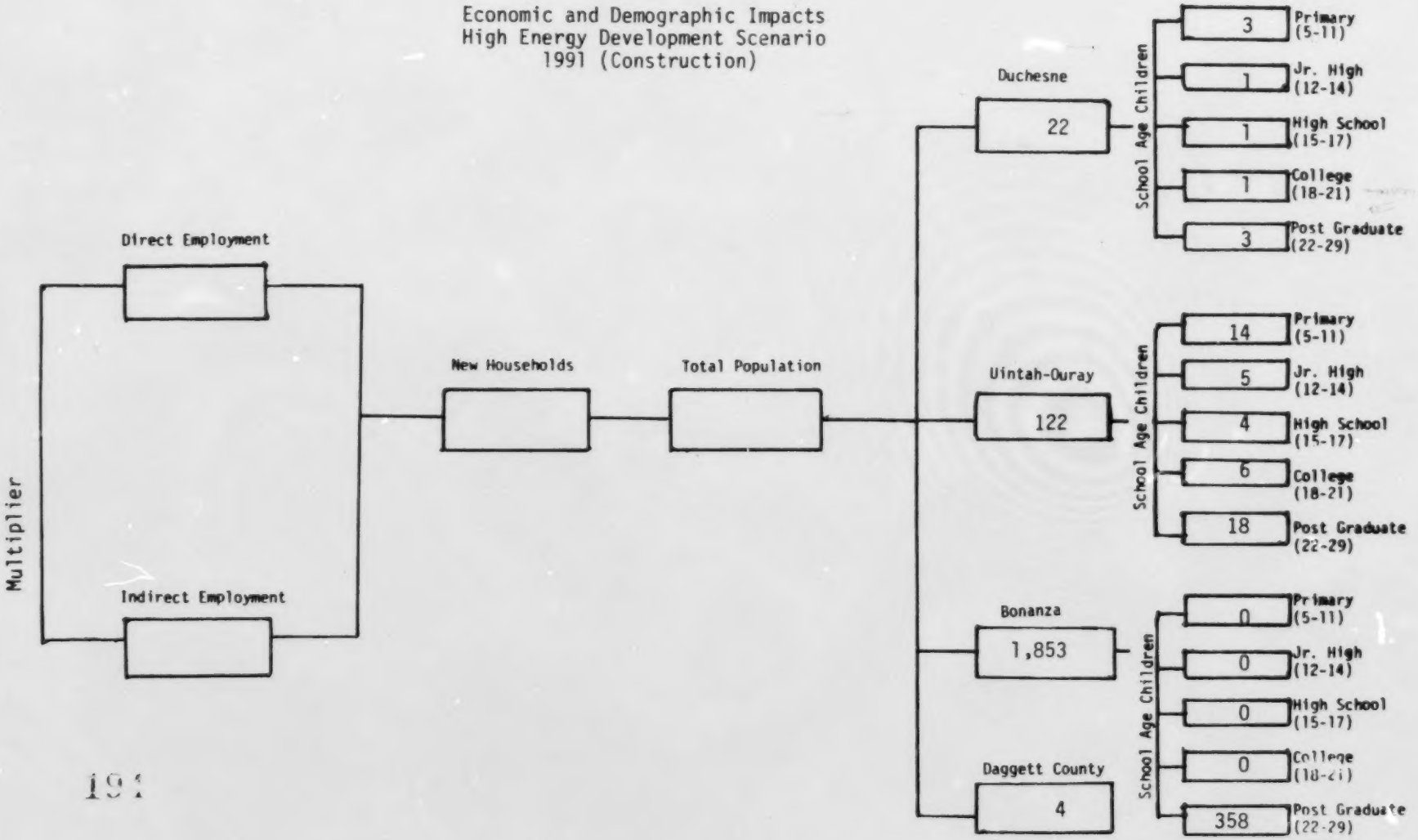
Economic and Demographic Impacts
High Energy Development Scenario
1991 (Construction)



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Economic and Demographic Impacts
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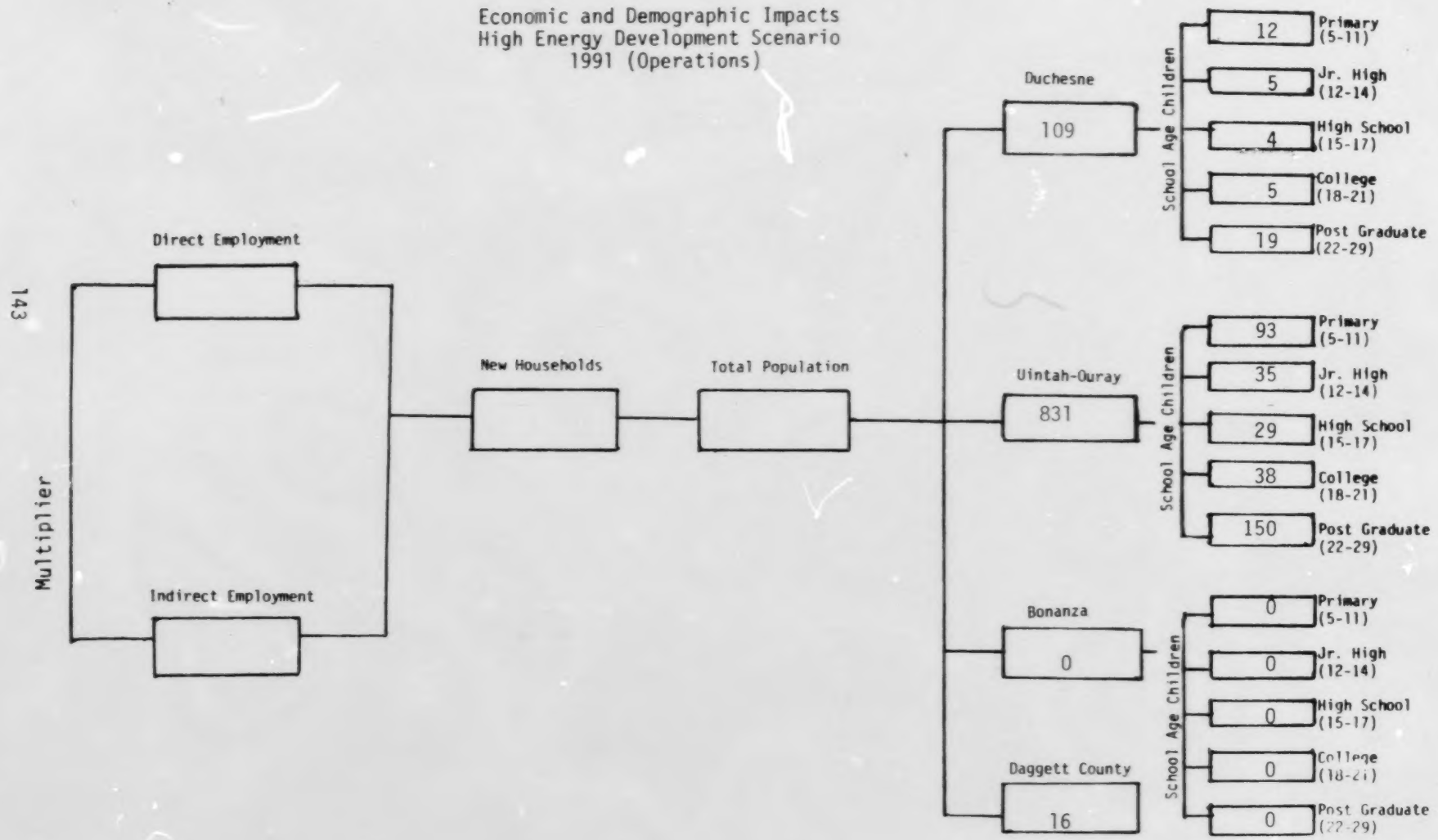
1991 (Operations)



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Economic and Demographic Impacts
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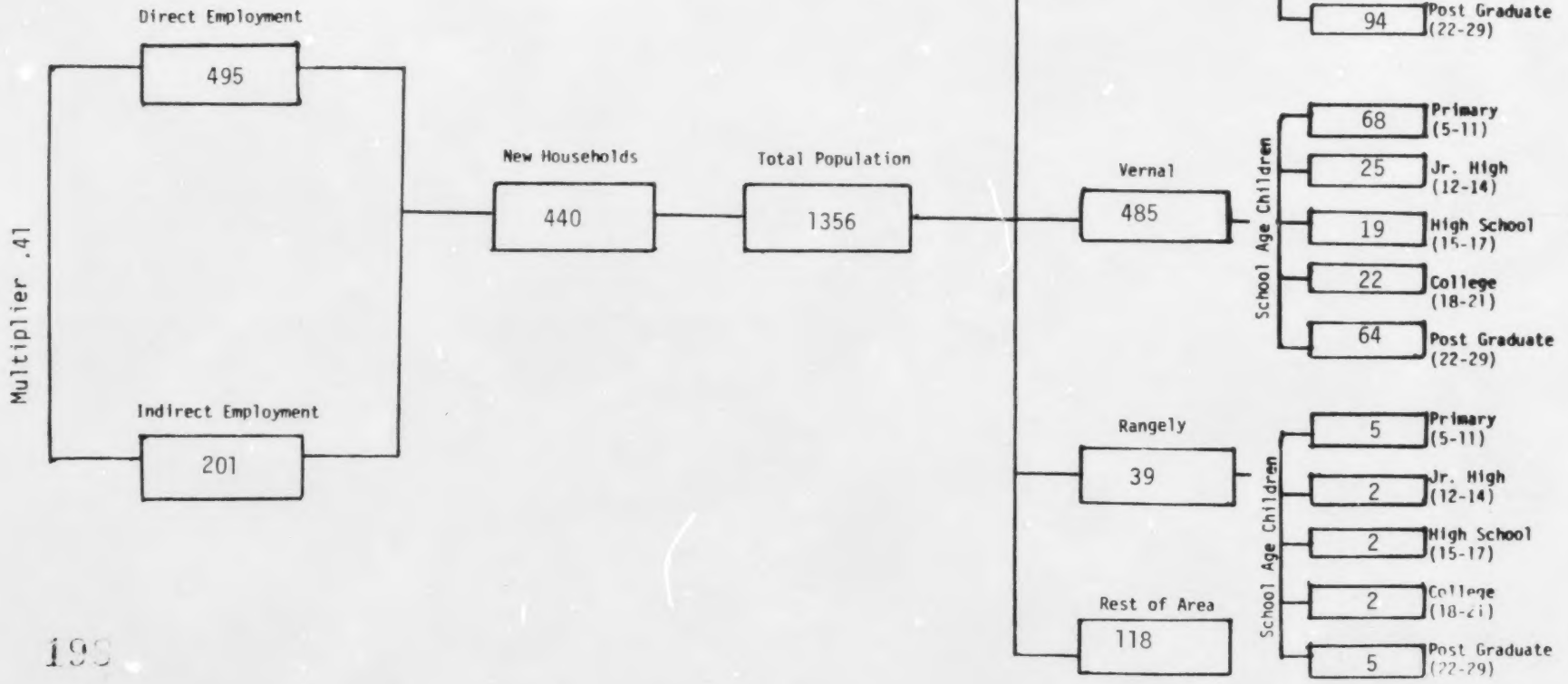
1993 (Construction)



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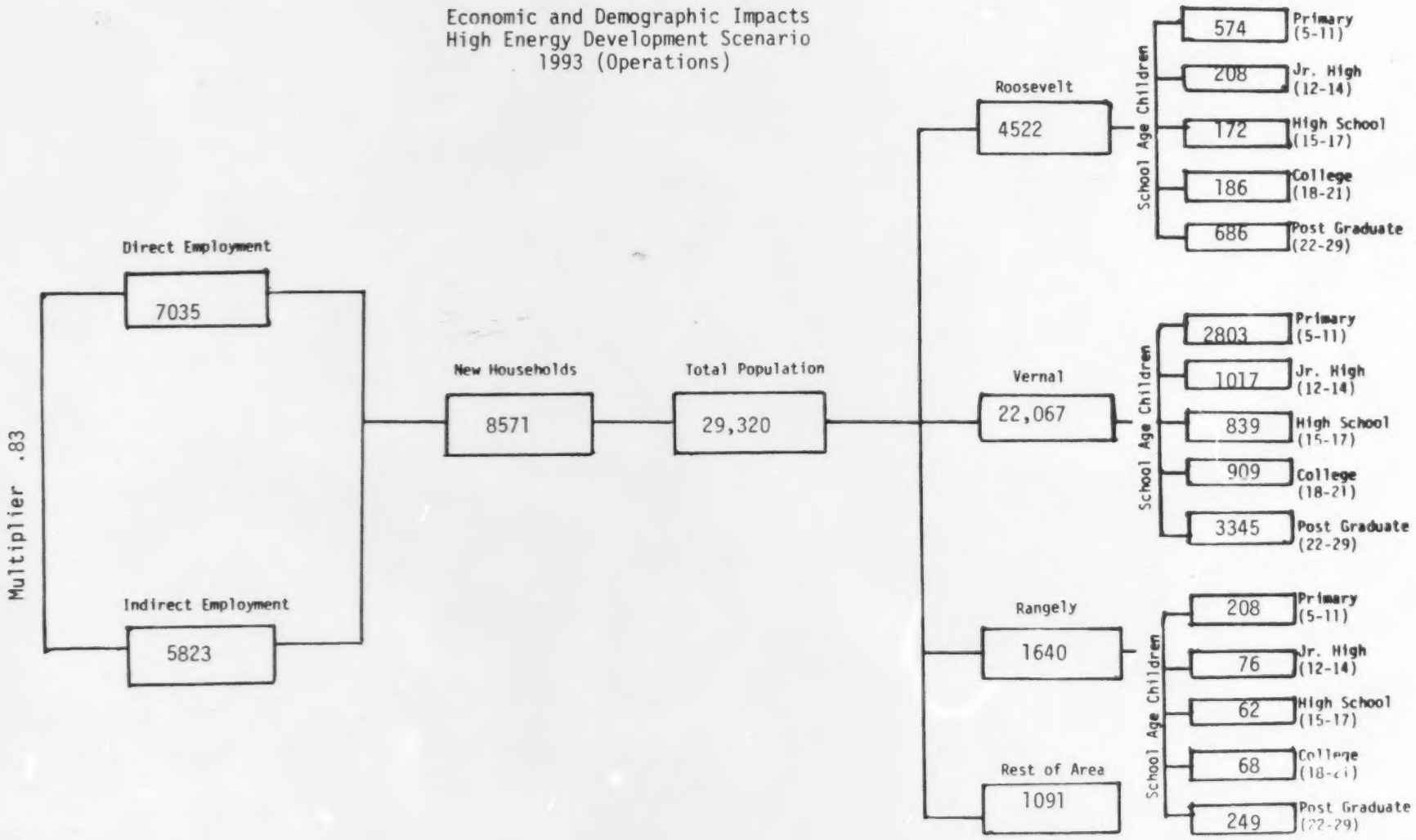
Economic and Demographic Impacts
High Energy Development Scenario
1993 (Operations)



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Economic and Demographic Impacts
High Energy Development Scenario
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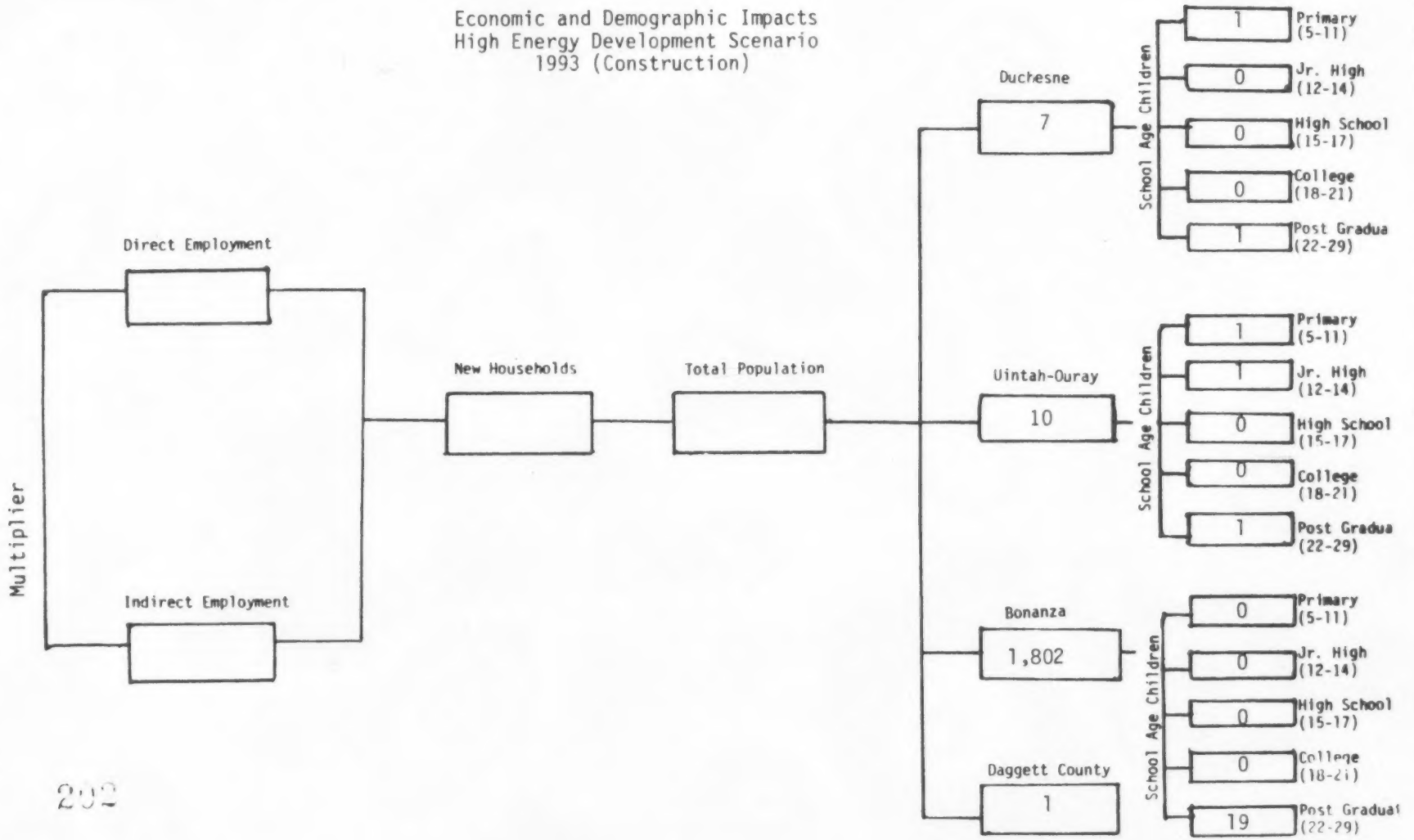

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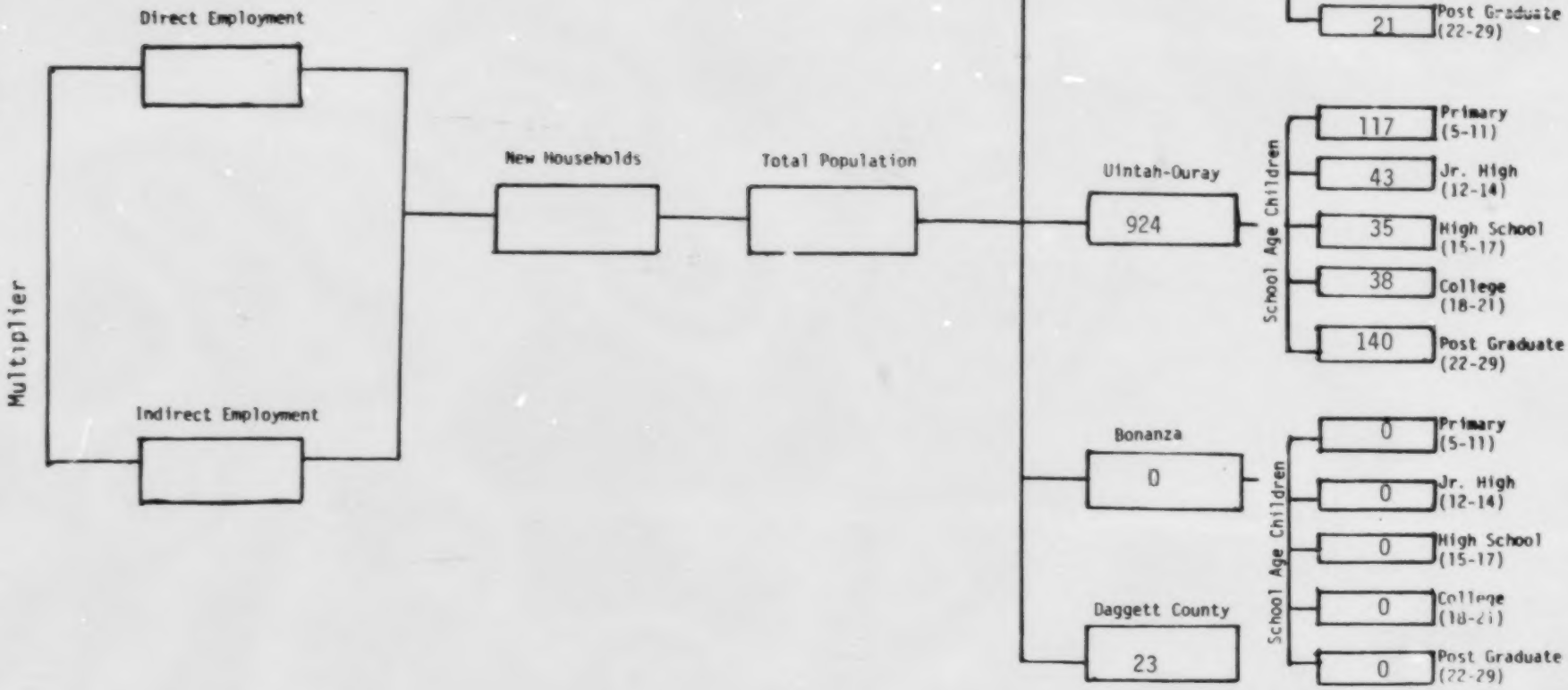
Economic and Demographic Impacts
High Energy Development Scenario
1993 (Operations)



APPENDIX C

STUDY DONE BY UBAVC

APPENDIX C

SUMMARY OF VOCATIONAL EDUCATION STUDY DONE BY UBAVC:[31]

The Uintah Basin Vocational Center recognizes the critical importance of energy development in relation to the economy and the stability of our energy dependent way of life in the United States. We are strongly committed to provide vocational technical educational services designed to meet the current and future energy labor market needs of the Uintah Basin.

The most recent projections are that the population in the Uintah Basin will increase 300 percent. There is a strong need to provide vocational and skill training to prepare people for the available job market as well as meet the needs of industry.

The Center is situated on a 30 acre campus in Roosevelt; departments include: Allied Health, Business and Trades and Industry. There are some 75,000 square feet of classroom and lab space. Outreach programs are maintained in Vernal and Duchesne. A new technical wing involving some 25,000 square feet is in the planning stage and will directly serve the energy industry.

We currently serve approximately 2,500 students in some 40 job skill areas. We plan to serve as the Uintah Basin Energy Training Center for the State of Utah as future demands require.

Many of the jobs that will be created by these new industries will require skills that are not currently taught at the Uintah Basin Area Vocational Center. The following courses have been taught as project courses to meet these needs:

1. Instrumentation - This course will cover typical control boards, metering, calibration, and minor repair of control room equipment. The course will be general enough to be applicable to refinery operations, gas plant processing, and surface retorting for oil shale and tar sands.
2. Refinery Processes - One of the Basin's largest employers will be an oil refinery--especially with the development of oil shale and tar sands. This refinery will be expanded, (expansion is currently taking place). Several of the oil shale companies are considering upgrading plants or refineries close by their retorts. This course will cover basic refining principles, including: thermo distillation, reforming and flow processes. Again, the training will be useful in related areas such as upgrade plant operations and gas plant processing.
3. Drilling Fluids - A study of drilling fluids and their importance in the drilling industry. Composition of drilling muds including the affects of various additives and clay chemistry will be covered. The course will also cover mud related downhole

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[31] Taken from: Impact of Energy Development on Vocational and Technical Education in the Uintah Basin, Uintah Basin Area Vocational Center, December, 1981

problems and solid control equipment. The course would be very useful to those interested in Mud Engineering as a career.

4. Mining Technology - Because most of the oil shale and much of the tar sand will be removed by underground mining techniques, training for these jobs is a must. Part of this training might have to take place at the job site, with portable training units or trailers being used as classrooms.
5. Heavy Equipment Operators - All but the in-situ methods of oil shale and tar sand recovery (as well as the power plant project and dam project) will require the moving of huge amounts of earth. The demand for trained equipment operators (both surface and subsurface) will far exceed the supply.
6. Environmental Technology - In the preconstruction EPA, as well as other Federal and State Agencies, will require impact studies for air, water and noise, as well as revegetation studies. After operations have started, the need to constantly check the water and air quality by certified technicians will still be there.

In addition, one and two week training seminars will be held to help upgrade current employees. Some one week seminars will be held where potential employees can become certified. An example of these in the conventional oil would be blowout prevention certification. Currently, before an employee can work on an offshore rig, he or she has to pass or complete a certified blowout school. It is only a short time until all rigs (including land) will require this certification before an employee can start work.

Supportive courses already being taught at the UBAVC that relate to future energy demands are:

1. Petroleum Technology
2. Welding
3. Diesel Mechanics
4. Auto Mechanics
5. Building Trades

Other traditional courses which need to be offered are:

1. Industrial Electricity
2. Machinist
3. Pipe Fitting
4. Synthetic Fuel Technology

A combined effort of the Utah State Board of Educational Vocational Division and the Uintah Basin Area Vocational Center need to jointly plan for expanding vocational education in order to meet the needs of energy development.

1. Based on a detailed survey of 22 oil shale projects, the industry's demand for specific skills is highly uncertain. the impact could be significant, with as many as 31,000 construction workers required in 1987 and 45,000 operation workers in 1990 in the tri-state area of Wyoming, Colorado, and Utah. On the other hand, it could also be one-third of those levels, or less. Fortunately, there is a two-to-three year delay between a company's

decision to proceed with a project and the onset of the demand for operations workers. This allows State agencies and training institutions enough time to wait to expand existing or start new training programs until the uncertainty is resolved.

2. Coal, trona and power plant projects are not expected to create as much new work force demand as oil shale, but in 1990 they will require about 16,000 additional construction and operations workers beyond normal area growth.

3. Secondary employment demand matches the projected increases in energy work force on a one-to-one basis. As many as 100,000 secondary jobs may develop in the region by 1990. Primary demand is the work force directly employed by the industry in question. Secondary demand is that which develops as a result of primary employment, and includes support industry and community services demand.

4. The geographic impact is determined primarily by oil shale, which can more than double employment in Utah's Uintah Basin Region (Daggett, Duchesne, and Uintah Counties).

5. Currently available supply information does not identify all major sources of skilled workers. Furthermore, demand and supply classification schemes are different, making it difficult to assess net training requirements.

6. Current planning is not well coordinated. There is no centralized information or coordination function.

If there are to be efficient solutions to these and other problems they can be expected only if there is cooperation and a willingness to work and compromise as needed. Cooperation will be achieved only through positive, supportive action by industry, state and local agencies, and training institutions. That philosophy is the basis for that energy-related training problems can be resolved.

CONCLUSIONS FROM THE UBAVC STUDY:

The growth and direction of the curriculum at the Uintah Basin Area Vocational Center needs to be directly related to the needs of the energy companied and more particularly to the needs of the accompanying service industries. Business, mining, petroleum technology, engineering, health related occupations, mechanics, building trades, accounting, welding, diesel mechanics, electricity, and computer science were identified as heavy growth subject areas in the research done in the project.

The following conclusions were developed in relation to the need for expanded vocational education programs in the Uintah Basin:

1. Curriculum growth and expansion of classes at the UBAVC need to be developed around the needs of energy industry in the Uintah Basin.
2. Curriculum emphasis needs to be in the area of vocational training on the technician level.
3. The age and trend toward student enrollment is in the age range of 21 to 28. Students enrolled in vocational/technical programs are usually older than other post-secondary programs.
4. There is a trend toward more women entering the non-traditional training programs of the energy industry.
5. Currently, much has been done to meet the energy impact. However, there is a lack of facilitied, staff, and planning to meet the energy impact and needs of industry as outlined in the data of this report.
6. It is projected that the UBAVC will more than double its current F.T.E. enrollment within five years in order to meet the needs of industry and the development of energy resources in the Uintah Basin Region.
7. For every full-time employee impacting an energy area another seven tenths employee is required. Often this person is in need of additional educational training, or desires skill-training to either prepare or upgrade skills for the existing job market.
8. Private industry, UBAVC and enterprise should have a more cooperative role in meeting the educational or training needs of the Uintah Basin. A cooperative effort with UBAVC and private enterprise should provide funding for facilities, staffing, and planning.
9. The UBAVC should develop the capabilities to take programs out to industry when it is possible through an outreach program.
10. The UBAVC needs to expand their outreach program so more classes can be provided in the Vernal area where the greatest influx of population and energy impact is taking place.
11. The UBAVC needs to be flexible and be able to respond to the energy impact educational needs for vocational programs.
12. All departments in the UBAVC should be expanded to include the following:

Allied Health:	Emergency Medical Technician, Levels I, II, III
	First Aid
	CPR Training
Trades and Industry:	Welding/Technician Level
	Diesel Mechanics/Technician Level
	Mining Technology Program
	Specialize in oil shale/tar sands and coal gasification
	Building Trades
	Heavy Equipment Operator
	Petroleum Technology/Upgrade
Business Department:	Office Occupations/with energy emphasis
	Management Training
	Business Administration Training
	Secretarial Science
	Human Relations
	Public Relations
	Salesmanship
General Education:	Basic Math
	Industrial Math
	Business Math
	Technical Math
	Communication Skills/Oral and Written

13. District, Higher, and Vocational Administrators residing within the Uintah Basin need to initiate planning processes within energy organization for the formulation and development of future curriculums, staffing and facility needs.
14. An active advisory committee needs to be organized for each new program with representatives from industry assisting in the development of training programs, curriculum and course offerings.
15. Technician level and/or specialized training are pre-requisites for people to enter the job market in energy industry other then level entry jobs.
16. The trades and industry program at the UBAVC should be expanded to include a one year mining technician program to meet the needs of the synfuel industries.

UBAVC TEN YEAR EXPANSION PLAN

UBAVC plans for 1982 should include:

EMT - Level I and II
Expand Heavy Duty/Diesel Technician
Expand Vernal Adult Business Program
Expand Petroleum Technology Program

A. Due to rapid development of energy resources, heavy construction, and increasing transportation, heavy duty diesel mechanics are in great demand. UBAVC must expand its program to full time to meet the needs of industry.
B. Student load in the Vernal Business Program exceeds instructional capacity of present staff requiring part-time lab assistant to help with instructional supervision and logistical record keeping. An additional staff member should be added.
C. The UBAVC needs to develop new courses in the Petroleum Program in fluids engineering and mud engineering to need specialized needs of students and industry to qualify students as drilling fluid engineers.
D. Part time coordinator/instructor need to be hired for the purpose of expanding the Emergency Medical Technician program to include Level II and Level III training to meet new industry and construction work demands.

UBAVC plans for 1984 should include:

1. Further expand the Petroleum Technology Program to provide specific courses in refinery and oil shale jobs.(?) This would require the addition of one FTE instructor.
2. Add technical wing to UBAVC Roosevelt Campus.
   a. A new wing or separate building to house diesel/heavy equipment, instrumentation/electric, petroleum/refinery, synfuel technology, apprenticeship and facility maintenance/warehousing. This addition is justified with energy related activity resulting in a 300 percent increase in population from 1982 to 1990 in the Uintah Basin. Projections indicate a need for up to 10,000 energy critical workers from 1984-1990.
3. Provide outreach programs to Vernal areas.
   a. The UBAVC should provide classes in instrumentation and refinery operation and provide instructional assistance for the anticipated increase in current student loads.
   b. The largest influx of population as a result of energy development is in the Vernal (Ashley Valley) area. Therefore, more vocational instruction needs to be made available to residents of Ashley Valley. Currently, approximately 75-80 percent of the UBAVC classes are offered in Roosevelt (Duchesne County) which is located 30 miles from Vernal. However, 65-70 percent of the population served by the UBAVC resides in Ashley Valley. An emphasis on outreach programs to the Vernal area will meet the needs of industry more effectively.

The UBAVC should plan to expand in 1985 as follows:

1. Add a Mining Technician Program of three quarters with a fourth quarter specializing into either oil shale, tar sands, or coal gasification. (See curriculum outline and course descriptions for details.)
2. Upgrade office occupations program with an emphasis on the needs of the energy industry.
3. Provide computer training with course emphasize on the needs of the energy industry.
4. Provide general education with an emphasis in basic mathematics.
5. The UBAVC needs to provide specific technician level training in the area of mining with emphasis in development of synfuels.
6. The UBAVC needs to upgrade office occupation progress with more emphasis on the needs of the energy industry. This program needs to include petroleum terminology, reporting, introduction to energy development and energy operations.
7. The computer training at the UBAVC needs to be upgraded in order to provide application and training of the use of computers more directly related to the energy industry.
8. There needs to be general education classes made available with an emphasis in basic mathematics which is essential for technician level training in the petroleum and synfuel industries.

The UBAVC Plans to expand in 1986 as follows:
Expand EMT Program to include Level III
Expand welding program to technician level

1. Offer mid-management and management level training for the energy industry.
2. Offer inservice training for advanced and for specialized training for people currently employed int he energy industry.

   a. The energy industry has a great need for Emergency Medical Technician (EMT) training because of the high risk and danger levels of the profession. EMT training on advanced levels add support services needed to handle emergencies or injuries.

   b. Welding is a skill needed on a technician level in order to meet the needs of the energy industry. Almost every phase of energy development has a need for technician level welders. The UBAVC needs to provide advanced training in addition to their beginning welding program.

   c. The increase energy related employment in the Uintah Basin creates a need for mid-management and management training. The UBAVC needs to provide supervisory and management training to meet the needs of the job market.

   d. UBAVC needs to continually offer inservice training for advanced and/or specialized training. The inservice training need to reflect the needs of industry and provide outreach programs.

The UBAVC plans to expand in 1987 as follows:

1. Upgrade building trades program.
2. Upgrade mining technician program.
3. Provide training in human relations skills.
4. Provide general education classes to include technical math.
5. The current building trades program needs to be upgraded to include no only domestic building but industrial and business construction. This program will enhance the existing program as well as meet the needs of the energy industry.
6. The CPR Training is needed as an inservice and specialized employees of the energy industry.
7. The mining program needs to be evaluated in depth and then from the recommendations the program needs to be upgraded.
8. Human relations training needs to be developed and integrated into all programs offered at the UBAVC. This will reinforce and strengthen all existing programs.

The UBAVC will expand in 1988 as follows:

1. Upgrade heavy duty operator program.
2. Provide public relations and salesmanship training.
3. General education offerings will be expanded to include written communication skills.
4. The heavy duty operator program needs to be developed in order to meet the vocational needs of industry. Most programs need heavy duty operators in their operation.
5. Written communication skills are needed in most areas of energy development. This course will be required where it is appropriate.

The UBAVC will expand in 1989 as follows:

1. First aid training will be offered as an integral part of the curriculum as well as inservice to people currently employed.
2. Business classes will be upgraded to help meet the needs of industry.

The UBAVC will expand in 1990 as follows:

1. Upgrade petroleum technology program.
2. Upgrade mining technology program.
3. Evaluate existing programs to see if they meet the vocational and technical needs of industry.
    a. The petroleum technology program needs to be evaluated and upgraded where needed in order to meet the needs of industry.
    b. The mining technology program needs to be evaluated and upgraded where needed in order to meet the training needs of industry.
    c. Existing programs need to be evaluated and upgraded where necessary in order to meet the training needs of industry served by the UBAVC.

APPENDIX D

UINTAH BASIN ENERGY PROJECT
HIGHER EDUCATION TASK FORCE

APPENDIX D

UINTAH BASIN ENERGY PROJECT
HIGHER EDUCATION TASK FORCE
SUB-COMMITTEE REPORT
December 7, 1981

INTRODUCTION

The following report was prepared as part of the Uintah Basin Educational Planning Project as implemented and directed by the State Office of Education. The principal state office official directing this project was Dr. Denise Lindberg. Dr. Lindberg directed the organization of the Uintah Basin Steering Committee, which in turn authorized this sub-committee report.

This sub-committee study was suggested by Dr. Varnell Bench during the May 15, 1981 meeting of the Uintah Basin Energy Steering Committee. Dr. Bench, director of the Utah State University Education Center, stated in this meeting, "That the proposed sub-committee study would gather data on actual experience of other energy-impacted communities concerning numbers of construction and operating work force members who seek higher and/or vocational education training." Dr. Bench further stated that "this data would then be used to determine program, staffing, and facility needs as they affect higher/vocational education within the Uintah Basin."

This proposed study was subsequently approved by the steering committee and by Dr. Lindberg. Dr. Bench then selected the following individuals to conduct the study: Dennis A. Mower, Study Chairman; Vince Lafferty and Nels Carlson, Study Team Members.

In addition to these study team officials, a committee of community leaders were selected to review the obtained study information and to make

recommendations of HIGHER/VOCATIONAL educational programming based on projected future energy impacts within the Uintah Basin. This committee was broadly based as to expertise and interest and included the following individuals:

Gaylon Cook, Biologist
Gail Davies, Homemaker
Denny Davies, National Park Service
Larris Hunting, Job Service
Sandra Goodrich, Homemaker
Billie Birch, Vernal Chamber of Commerce

Dennis A. Mower was assigned the responsibility to act as chairman for this sub-committee as well as for the research team.

HIGHER/VOCATIONAL EDUCATION STUDY

The original intent of the study team was to visit as many colleges and vocational schools with energy impact during the last ten years within the states of Colorado and Wyoming. With this purpose in mind the study team selected the following institutions for study:

The Colorado Mountain College, Glenwood Springs, Colorado; Mesa College, Grand Junction, Colorado; Colorado Northwest Community College, Rangely, Colorado; Casper College, Wyoming; and the Western Wyoming Community College, Rock Springs, Wyoming.

In addition to these on-site visits, the study team planned to survey by telephone certain other institutions in this two state area. These institutions included the Colorado School of Mines at Golden, Colorado; the University of Colorado, Boulder, Colorado; and the University of Wyoming, Laramie, Wyoming.

Survey Instrument

An open-ended type questionnaire was developed by the study team with assistance from Mr. Keith Bergquist, Director of the Uintah Basin Area

Vocational Center at Roosevelt. This questionnaire was subsequently reviewed, altered, and approved by the committee of community leaders. This questionnaire is included as exhibit A in the report.

Survey

The actual survey was conducted during the month of October. The study team carried out on-site visits as indicated in the following:

Vince Lafferty on October 9 to Riverton, Wyoming
Dennis A. Mower on October 9 to Rock Springs, Wyoming
Nels Carlson on October 15 to Glenwood Springs, Colorado
Nels Carlson on October 16 to Grand Junction, Colorado
Dennis A. Mower on October 17 to Rangely, Colorado

Efforts were made to complete the telephone surveys and information was obtained from Casper College in Casper, Wyoming and from the Colorado School of Mines in Golden, Colorado.

Survey Results

The study team met together during the month of November to compile the study results for presentation to the local committee and for presentation in this report. These results are now presented in the appropriate numerical sequence to coincide with the questionnaires format.

1. Energy Impact: All of the institutions surveyed had in common the development of new sources of energy, with the primary emphasis being given to oil and coal. The institutions in Colorado had in common with the Uintah Basin the production of oil through the conventional method. This area of Colorado was also heavily involved with the mining of coal. The Wyoming areas had more traditional types of energy development including coal, iron ore, and uranium. The Rock Springs area had a further impact through the construction of an electrical generating plant.

These energy impacts occurred as early as 1944 in the Rangely, Colorado area and for even an earlier period in Rock Springs, Wyoming. Most of the

other projects that impacted on the institutions occurred in the decade of 1970. In all instances the institutions were planning for rapid growth in the decade of 1980.

2. Educational Impact: All of the institutions surveyed had experienced at least a moderate growth during the past ten years. One of the institutions experienced a high growth impact during the decade of 1970. With this result, the study team determined that a high and moderate scenario from two of the institutions would be helpful to the committee and to the entire project as one method of measuring possible impact in the Uintah Basin area. These scenario's are shown in tables 1 and 2 on the following page of this report. The most dramatic growth was shown in table 1 for the Western Wyoming College which experienced a full-time equivalence (FTE) growth of 501 percent during the ten year period. On the other hand, the projected ten year growth for the Central Wyoming College was only 66 percent (using a multiplier of two).

At each institution, the administrators and program director experienced great difficulty in meeting the resulting needs created by the increases in student enrollments.

3. Curriculum Impacts: The growth and direction of the curriculum at the institutions surveyed was found to be directly related to the needs of the energy companies and more particularly to the needs of the accompanying service industries. Business, mining, petroleum technology, engineering, health related occupations, mechanics, building trades, accounting, electronics, photography, the biological sciences, and computer science were identified as heavy growth subject areas.

The highest mentioned subject area growth were those of business and the business related curriculum. The Western Wyoming College ranked this subject

TABLE 1

WESTERN WYOMING COMMUNITY COLLEGE

Year	Enrollment	Increase	%Increase
1970	585	---	--
1971	644	59	10
1972	875	231	36
1973	1249	374	43
1974	1533	284	23
1975	1799	266	17
1976	1972	173	10
1977	2772	800	41
1978	3258	486	18
1979	3319	61	2
1980	3517	198	6

TABLE 2

CENTRAL WYOMING COLLEGE

Year	Enrollment	Increase	% Increase
1975	1395	---	--
1976	1693	297	21
1977	1651	-41	-2
1978	1756	75	5
1979	1806	80	5
1980	1862	56	3

area first, while Central Wyoming gave a second ranking to this subject. Colorado Northwest College ranked this subject area fifth.

Other subject areas most often identified were mechanics, the building trades, engineering, and health related subjects.

Subjects least identified were those of education, social science, humanities, math, science, and chemistry.

4. Other Comments: The study team obtained several comments from administrators at the various institutions that are included in this section. Probably most noteworthy were the comments of Dr. Donald Gulliams from Western Wyoming College as indicated in the paragraph that follows. Dr. Gulliams comments are quite representative of each of the institutions surveyed. Dr. Gulliams stated,

> "From an educational standpoint, sometimes it is very difficult to get accurate, up to date information to use as a basis for decision making. It is imperative that you insist on meeting with industry, and that they be honest with you in providing some concrete evidence of these training needs. We must be flexible and in many cases we will be reacting to a need without much planning. Industry will be there on your doorstep and you must try to help them, however, you must be realistic in what you can or cannot provide. Don't be afraid to ask them for help in equipment, facilities, personnel, or other items - they can afford it! Your vocational school will be hit hard with demands in welding, electricity, mechanics, diesel, etc. Be prepared - develop as much information as possible - form advisory councils with the industries well represented - use their training officers. Don't forget the women who will be coming with their husbands. They need things to do - enrichment classes, etc. - they also need child care centers. It is extremely important that you be able to move quickly to meet a need - don't get bogged down in bureaucracy to the point of inaction."

5. Sources of Funding: The institutions surveyed used primarily the traditional sources of funding to meet the educational growth in their areas. These sources included local tax revenues, state appropriations, tuition, and in some cases federal grants.

STUDY TEAM CONCLUSIONS

Following a complete review of the survey information obtained, the study team met and developed the following conclusions:

1. Curriculum growth at the institutions surveyed was both traditional academic and vocational in nature.

2. The institutions surveyed were already offering a combination of academic, vocational, and community school type program offerings.

3. The age and sex trends were toward older students in the age range of 21 to 28.

4. There was a trend toward greater numbers of female students at the institutions.

5. All institutions surveyed expressed concern about a lack of facilities, staff, and planning to meet the energy impact.

6. All institutions surveyed had either substantial or moderate FTE growth, and expect this trend to continue into the next decade.

7. For every full-time employee impacting an energy area, another seven tenths employee is required. Often this person is in need of additional educational training, or desires to participate in other educational programs including community education.

8. All institutions surveyed felt that private enterprise should have a ore active role in meeting the educational or training need. Private enterprise should provide funding for facilities, staff, and planning. Front-end financing for facilities should be a minimal requirement.

9. Institutions should develop the capability to take programs out to the industry, where possible.

10. Institutions being impacted should be flexible, and be able to respond to the energy impact educational need. Area wide block programming should be considered.

UINTAH BASIN HIGHER/VOCATIONAL EDUCATION

In order for the study team and local committee to compare the study results and to make recommendations to the steering committee, the full-time equivalent enrollments (FTE) were prepared for the Uintah Basin area. These figures were obtained from the Utah State University Center and Uintah Basin

Area Vocational Center at Roosevelt. These combined FTE figures are shown in Table 3 on the following page.

These figures as combined indicated that the Uintah Basin area has already experience a moderate growth due to energy related impacts. They

TABLE 3

UINTAH BASIN HIGHER/VOCATIONAL EDUCATION

Year	Enrollment	Increase	% Increase
1972	264	---	---
1973	233	-31	-12
1974	300	67	29
1975	429	129	43
1976	596	167	39
1977	713	117	20
1978	941	228	32
1979	996	55	6
1980	1029	33	3
1981	1109	80	8

further demonstrate that there are a number of educational needs which deserve the attention of educational leaders must start the process of informing political leaders of the impending Higher and Vocational educational needs of the Uintah Basin.

The Uintah Basin area has experienced an overall growth of two hundred and forty-five (245) percent FTE growth during the ten year period This growth pattern is almost exactly a midpoint between the Western Wyoming Community College and the Central Wyoming College scenario's (Tables 1 and 2) when comparing FTE growth. Certainly, these tables give enough information to project FTE growth during the next ten years if these figures are correlated with energy related population growth as projected for the Uintah Basin.

The local study committee requested that population figures be obtained for Rock Springs and Riverton, Wyoming to enable further comparisons with the Uintah Basin. These figures were provided by Job Service and are shown in Table 4.

TABLE 4

POPULATION FIGURES

Area	Year	Population
Rock Springs	1970	11,658
	1980	19,458
Riverton	1970	7,995
	1980	9,588

UINTAH BASIN ENERGY DEVELOPMENT

The committee next suggested that the study team obtain energy impact study information. This data was readily obtained from the local Job Service

Office through a study conducted by the Utah State Planning Office and Bureau of Economic and Business Research, College of Business, University of Utah. This study was entitled, "Uintah Basin Energy Development: Economic/ Demographic Impacts", dated June 11, 1981.

This study enabled the local committee to review population projections for the Uintah Basin from both a medium development scenario (Exhibit B), and from a high development scenario (exhibit C). Upon completion of this review, it was easy to postulate FTE figures for the Uintah Basin, especially when these figures were coupled with the Wyoming census and enrollment figures.

One possible projection could be as follows: Use the Rock Springs 1980 population of 19,458 (Table 4), coupled with an FTE figure at the Western Wyoming Community College of 3,517 (Table 1, 1980), linked with the high scenario projected population for the Uintah Basin (Exhibit C, year 200) of 40,284. This projection would mean a possible FTE figure in the Uintah Basin of over 700 by the year 2000.

Even a medium development scenario indicated a possible FTE load of approximately 4500 based on the Rock Springs experience.

CONCLUSION

Although this study was somewhat cursory in nature, the local committee and study team were affected by the results. If the population projections are correct, significant educational impacts is likely to occur within a very short period of time. Very little has been done to meet this possible growth by local or state educational planners.

Significant growth for Higher/Vocational education then is imminent in the Uintah Basin. Action by planners and educators is a must and should be exercised in an expedient manner. State and local educational and political leaders must give prompt attention to these impending impacts.

EXHIBIT A

UINTAH BASIN ENERGY PROJECT

Higher and Vocational Education Task Force

Survey of Energy Impacts in Selected Post-Secondary Institutions

of Colorado and Wyoming

September/October, 1981

I. Identification Data

Institution surveyed_____ Date_____

Address_____ Phone_____

_____ Staff_____

Respondent_____ Enrollment_____

Attendance Area Population_____

II. Energy Impact

A. Type_____

_____

B. Location_____

_____

C. Duration_____

_____

D. Phases

1. Construction

Time_____ Workers_____

2. Ope tional

Time_____ Workers_____

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III. Educational Impacts Generated

A. Effect on Enrollment (Construction Phase)

1. Increases

1st year_____ 2nd year_____ 3rd year_____

5th year_____ Beyond_____

2. Student Age Levels (New Enrollment)

18-21_____ 22-25_____ 26-30_____

31-40_____ Above 40_____

3. Growth Area (Curriculum)

Vocational_____ Percentage_____

Academic_____ Percentage_____

B. Effect on Enrollment (Operational Phase)

1. Increases

1st year_____ 2nd year_____ 3rd year_____

5th year_____ Beyond_____

2. Student Age Level (New Enrollment)

18-21_____ 22-25_____ 26-30_____

31-40_____ Above 40_____

3. Growth Area

Vocational_____ Percentage_____

Academic_____ Percentage_____

IV. Specific Subject Area Growth-Both phases (Rank in order the 10 most important).

Area	Rank	Percent
Education		
Humanities		
Social Sciences		
Drafting		
Mining		
Mechanics		
Accounting		
Business		
Science		
Petroleum Technology		
Service Industries		
Math		
Chemistry		
Clerical		
Building Trades		
Computer Science		
Health Related		
Engineering		
Other (Specify)		

V. Other comments (Indicate pitfalls which could possibly be avoided based on your experiences).

VI. Sources of funding to meet impact.

EXHIBIT B
Table 10.13

UINTAH BASIN PLUS RANGELY
Medium Development Scenario
Summary of Impacts
(Addition to Baseline)

Year	Population Impact	Employment Impact		Households Impacts	Labor Force Impacts	School Age Population (5-17) Impacts
		Total	Basic*			
1981	2,033	1,063	766	718	1,026	381
1982	6,275	3,540	2,666	2,089	3,409	1,051
1983	12,603	7,215	5,455	4,157	6,956	2,045
1984	15,215	8,652	6,420	5,079	8,350	2,529
1985	16,578	9,091	6,538	5,341	8,816	2,916
1986	20,480	10,957	7,709	6,361	10,704	3,678
1987	25,046	13,220	9,252	7,648	12,924	4,414
1988	31,941	16,564	11,440	9,979	16,142	4,414
1989	30,218	15,342	10,450	9,246	15,001	5,668
1990	25,588	12,357	7,812	7,730	12,155	5,371
1991	24,484	11,265	6,657	7,217	11,112	4,691
1992	24,607	10,773	5,937	7,265	10,659	4,665
1993	26,025	11,091	5,862	7,559	11,008	4,960
1994	27,510	11,501	5,872	7,896	11,420	5,616
1995	28,183	11,582	5,692	7,977	11,504	6,332
1996	29,202	11,848	5,647	8,194	11,775	6,862
1997	30,248	12,156	5,647	8,439	12,084	7,513
1998	31,140	12,428	5,657	8,654	12,358	8,165
1999	31,901	12,668	5,647	8,849	12,599	8,817
2000	32,477	12,865	5,647	9,012	12,781	9,469

EXHIBIT C
Table 10.13

UINTAH BASIN PLUS RANGELY
High Development Scenario
Summary of Impacts
(Addition to Baseline)

Year	Population Impact	Employment Impact Total	Employment Impact Basic*	Households Impacts	Labor Force Impacts	School Age Population (5-17) Impacts
1981	2,033	1,063	733	718	1,026	381
1982	6,275	3,540	2,666	2,089	3,409	1,051
1983	12,603	7,215	5,455	4,157	6,956	2,045
1984	15,215	8,652	6,430	5,079	8,350	2,529
1985	16,578	9,091	6,538	5,341	8,516	2,916
1986	20,480	10,957	7,709	6,361	10,704	3,678
1987	26,214	13,874	9,737	8,059	13,552	4,607
1988	34,341	17,890	12,398	10,822	17,435	6,081
1989	35,178	17,949	12,181	10,954	17,536	6,275
1990	31,953	15,742	10,242	9,781	15,444	5,834
1991	32,613	15,615	9,819	9,841	15,340	6,137
1992	30,844	14,084	8,295	9,189	13,894	6,111
1993	30,677	13,554	7,530	9,011	13,406	6,477
1994	32,794	14,150	7,573	9,532	14,013	7,335
1995	34,303	14,396	7,393	9,824	14,296	8,082
1996	35,844	14,773	7,347	10,156	14,687	8,742
1997	37,196	15,151	7,347	10,479	15,056	9,402
1998	38,362	15,489	7,347	10,756	15,395	10,062
1999	39,386	15,797	7,347	11,010	15,704	10,722
2000	40,284	16,075	7,347	11,250	15,984	11,383

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APPENDIX E

THE SCHOOL-COMMUNITY DEVELOPMENT COUNCIL

APPENDIX E

THE SCHOOL-COMMUNITY DEVELOPMENT COUNCIL

BASIC PURPOSE

To advise the Board of Education and the Superintendent in matters pertaining to the school district and its educational program. Specifically, this council is convened to assist in accomplishing the following goals:

1. Enhance the quality of education in the district.

2. Broaden the base of community input in the district's decision-making processes.

3. Support and strengthen the relevance, productivity and effectiveness of the educational system.

4. Build community confidence in the district's educational system.

FUNCTIONS OF THE COUNCIL

The council has been organized to provide leadership in strengthening the home-school-community partnership. In order to accomplish this charge, the council is expected to:

1. Organize itself and its work appropriately.

2. Direct its work within the parameters set by the Board.

3. Coordinate the marshalling of community resources to accomplish its work and strengthen the partnership concept.

4. Evaluate, on a regular basis, its own effectiveness, and review the effectiveness of programs and procedures (if assigned by the Board to do so).

5. Communicate with and represent, the community at large, and

6. Expand Public Involvement in the educational system.

COUNCIL MANAGEMENT

The council will assume full responsibility for organizing and managing the council structure and council work within the parameters set by the Board of Education. The council, therefore, will seek to insure community representation on the council, and will make recommendations to the Board for procedures to be followed in the council member selection process and in setting member tenure. The council will elect its own officers, outline the duties of its officers, and designate regular and special meeting times. The council will also be responsible for organizing and managing a sub-committee or task force structure to accomplish its work.

The Board and Council will negotiate the frequency of reporting meetings. In any event, however, the Council and the Board will meet in a regularly scheduled session at least once a quarter.

COUNCIL WORK

Council work may arise from three sources: 1) Board assignment, 2) Problem identification by the council, 3) Problem identification by the community at large or segments of the community.

In the case of Board assignment, the following procedures will be observed:

1. Board provides, in writing, a specific charge to be addressed.

2. Board provides a timeline for interim and final council reports.

3. Board identifies the nature and format of the final report.

4. Board identifies and allocates district resources which may be needed by council to fulfill its charge.

In the case of issue or problem identification by the council, the following procedures will be observed:

1. In council, in conjunction with the district facilitator and the Board liaison evaluates its appropriateness for dealing with the issue in light of its mandate.

2. If consensus exists that the proposed issue should be addressed by the council, the council designates a sub-committee to draft a brief, written proposal for action to be presented to the Board. Such a proposal should outline the issue to be addressed, and the action which the Council proposes to take to deal with the issue. The sub-committee should be able, if needed, to meet with the Board to discuss the proposal.

3. In consultation with the council representatives, the Board determines whether the proposal falls within the role and function of the council. Following such a determination, the procedures follow those outlined under Board assignment (above).

In the case of issue or problem identification arising from the community, the following procedures will be observed:

1. An executive committee of the council, along with the Board chairman (or designated Board liaison), the Superintendent, and the district facilitator meet to evaluate the most appropriate forum for addressing the issue or problem.

2. If the consensus of that group is that such an issue is best addressed by the council, the issue is brought to the total council.

3. Work is allocated, monitored and evaluated by the council.

4. All appropriate feedback to the Board (during the regularly scheduled meetings) and to the community is managed by the council.

LIMITATIONS:

The council is organized to serve in an advisory capacity to the Board, and such, members understand that the council shall not have any of the powers and duties now reserved by law to the School Board.

Nevertheless, the School Board understands and values the service provided by the council, and the Board commits to give all due consideration to the proposals and recommendations which arise from the council.

TRAINING:

Extensive experience in working with community councils has demonstrated that an initial training component, coupled with a regularly scheduled inservice program is an essential element in assisting a school-community development council function most effectively. As a result, all council members are expected to participate in the following training programs:

1. An initial "team-building" seminar designed to develop greater understanding of personal leadership style and group dynamics. This will be a 3-hour session to be scheduled shortly after the first council meeting.

2. A 45-60 minute inservice program which will be included in the first six regularly scheduled council meetings. These sessions will focus on building and strengthening the council.

3. Ongoing training as part of regularly scheduled meetings (to be held at least quarterly, or more frequently if the council so chooses). These sessions will also be 45-60 minutes in length and will build council members' skills in group process and management; planning processes; public involvement strategies, etc.

In addition, opportunities will be made available to council members (who so desire) to attend workshops and conferences in these and other areas which can enhance member skills and council functioning.

GLOSSARY

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Aboveground (Surface) Retorting - Any processing in which oil shale rock is mined and brought to surface facilities for the extraction of shale oil.

In-Situ Retorting - Any process in which a section of oil-bearing shale is heated in place underground to release oil without any significant mining of ground materials.

Kerogen - The "oil" precursor in oil shale rocks. A high molecular weight organic substance contained in oil shale. When heated to above 900°F, the kerogen decomposes to yield a liquid oil, light gases and a solid residue material.

Modified In-Situ Retorting - A process in which a limited amount of underground rock is removed and the remaining oil shale is heated in place.

Oil Shale - A layered sedimentary rock which contains abundant quantities of an organic material known as kerogen. When heated to above 900°F, the kerogen in the rock decomposes, releasing a liquid oil product, shale oil.

Refining - The chemical and physical process by which raw or crude petroleum is separated into its various components and chemically changes to desirable products (e.g. gasoline and heating oil).

Retort - An closed vessel or facility for heating a material. Retorting is the process by which a material, such as oil shale, is heated.

Shale Oil - The liquid oil produced from heating oil shale rocks. Shale oil is a synthetic crude resembling conventional petroleum.

Synthetic Fuel (Synfuel) - Any direct substitute for liquid petroleum fuels. Liquid petroleum-like fuels derived from any so-called "unconventional" non-petroleum source such as coal, oil shale, tar sands, agricultural products or municipal-solid wastes.

U-a and U-b - Federal Prototype Oil Shale Lease tracts leased to White River Shale Oil Corporation, a consortium of Sun, Phillips and Sohio Petroleum.